

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開2002-172211

(P2002-172211A)

(43) 公開日 平成14年6月18日 (2002.6.18)

(51) Int.Cl. ⁷	識別記号	F I	キーワード (参考)
A 6 3 F 7/02	3 0 3	A 6 3 F 7/02	3 0 3 A 2 C 0 8 8
	3 2 3		3 2 3 A
	3 2 6		3 2 6 Z
	3 3 8		3 3 8

審査請求 有 請求項の数 9 O L (全 14 頁)

(21) 出願番号 特願2000-373326 (P2000-373326)

(22) 出願日 平成12年12月7日 (2000.12.7)

(71) 出願人 391010943

株式会社藤商事

大阪府大阪市中央区内本町一丁目1番4号

(72) 発明者 塚原 啓二

愛知県一宮市丹陽町三ツ井字下平6番地

株式会社藤商事開発センター内

(74) 代理人 100100273

弁理士 谷藤 孝司

Fターム (参考) 2C088 AA35 AA36 AA42 AA67 AA69

BA41 BC58 BC72 DA24 EA10

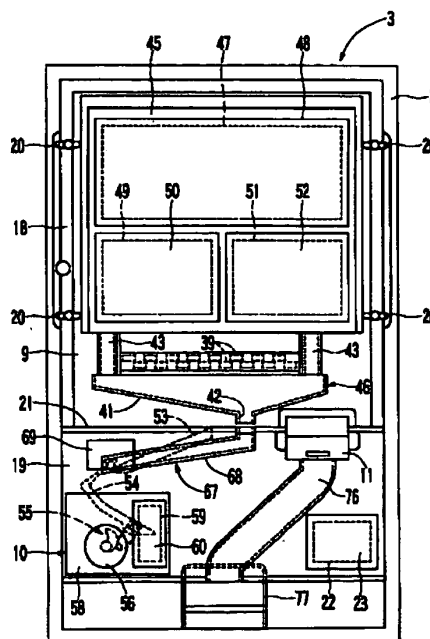
EA26

(54) 【発明の名称】 組み合わせ遊技機

(57) 【要約】

【課題】 制御基板の単機能化を図り、一部の制御基板を異なる機種に共通に使用可能にしたり、制御機能の変更を容易に変更可能にする等、製作コストを低減でき、故障等による制御基板の交換を低コストで容易にできる組み合わせ遊技機を提供する。

【解決手段】 複数の制御機能を備え、その各制御機能別に複数の制御基板22、47、49、51、59を設ける。



【特許請求の範囲】

【請求項1】 遊技領域(26)の下部に複数個の入賞口(38)を有する入賞口手段(27)を備え、前記遊技領域(26)にゲーム毎に所定数の遊技球を打ち込みながら、その終了毎に所定の休止時間をおいてゲームを繰り返し可能にした組み合わせ遊技機において、複数個の制御機能を備え、その各制御機能別に複数個の制御基板(22)(34)(47)(49)(51)(59)(103)(136)を設けたことを特徴とする組み合わせ遊技機。

【請求項2】 遊技盤(9)側の遊技動作の制御を行う主制御基板(47)と、遊技領域(26)へと遊技球を発射させる発射手段(10)の発射制御を行う発射制御基板(59)と、獲得遊技価値に基づいて景品用の遊技媒体の払い出し制御を行う払い出し制御基板(22)とを備えたことを特徴とする請求項1に記載の組み合わせ遊技機。

【請求項3】 預託された遊技媒体に関する制御を行う預託制御基板(103)を備えたことを特徴とする請求項1又は2に記載の組み合わせ遊技機。

【請求項4】 誘導図柄表示手段(28)の誘導図柄(28a)の変動制御を行う図柄制御基板(34)と、遊技状態に基づいて音声の制御を行う音声制御基板(51)と、遊技状態に基づいて表示ランプ(130)の表示制御を行うランプ表示制御基板(49)とを備えたことを特徴とする請求項1～3の何れかに記載の組み合わせ遊技機。

【請求項5】 前記入賞口手段(27)の前記入賞口(38)に対応する入賞表示部(100)を備えた入賞表示手段(99)の入賞表示の制御を行う入賞表示制御基板(136)を備えたことを特徴とする請求項1～4の何れかに記載の組み合わせ遊技機。

【請求項6】 前記主制御基板(47)から所定の制御基板に制御コマンドを一方方向通信により送信するようにしたことを特徴とする請求項2～5に記載の組み合わせ遊技機。

【請求項7】 遊技対価を預託する機能と、その預託対価からゲームの開始前に該ゲームに必要な遊技対価を減算する機能と、前記遊技対価の減算後にゲームを開始可能にする機能とを備えたことを特徴とする請求項1～7の何れかに記載の組み合わせ遊技機。

【請求項8】 メダルを投入するメダル投入口(75)と、該メダル投入口(75)に所定の複数枚のメダルを投入することを条件にゲームを開始可能にする機能とを備えたことを特徴とする請求項1～7の何れかに記載の組み合わせ遊技機。

【請求項9】 発射手段(10)から遊技盤(9)へと遊技球を案内する発射側経路(66)と、前記遊技盤(9)から前記発射手段(10)側へと遊技球を戻す戻り側経路(67)とを含む閉ループ状の循環経路(65)を構成し、該循環経路(65)中に複数個の遊技球を封入したことを特徴とする請求項1～9の何れかに記載の組み合わせ遊技機。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、アレンジボール機、雀球遊技機等の組み合わせ遊技機に関するものである。

【0002】

【従来の技術】組み合わせ遊技機、例えばアレンジボール機には、遊技球投入式とメダル投入式とがある。この種のアレンジボール機は、遊技機本体に装着された遊技盤の遊技領域の下部に、複数個の入賞口を有する入賞口手段を配置すると共に、その上側に誘導図柄表示手段、作動手段、特定入賞手段、価値増加手段等の各遊技部品を配置し、遊技機本体側にメダル等の遊技媒体を払い出す払い出し手段を装着している。

【0003】そして、ゲームに際しては、発射手段により遊技領域へと所定数、例えば16個の遊技球を打ち込み、その遊技球が入賞口手段の何れかの入賞口に入賞して所定の入賞役が成立すれば、その入賞役の成立の難易度に応じて所定の得点等の遊技価値を付与して、その獲得遊技価値に応じて払い出し手段により遊技球、メダル等の遊技媒体を払い出し、また誘導図柄表示手段の変動後の停止図柄が「7・7・7」等の特別態様の場合には、特別遊技状態が発生して価値増加手段に遊技球が入賞することにより、得点等の遊技価値を増加させる。

【0004】このようなアレンジボール機では、CPU、ROM、RAMその他の電子部品が装着された制御基板により制御を行う電子制御方式を採用しているが、従来の制御基板は、複数種類の制御機能を備えた構成になっている。

【0005】

【発明が解決しようとする課題】例えば1個の主制御基板上に、遊技盤側の遊技動作の制御を行う主制御機能の他に、誘導図柄表示手段の誘導図柄の変動制御を行う図柄制御機能を備える等、従来は1個の制御基板上に制御機能、制御対象の全く異なる電子部品を装着して、その制御基板により異なる制御対象を異なる制御機能に基づいて制御する方式を採用している。

【0006】このため従来では制御基板の数を少なくできる反面、主制御機能又は図柄制御機能の一部が異なる複数種類の遊技機を製造する場合には、その各機種毎に制御基板を製作する必要がある、複数種類の遊技機に制御基板を共通に使用する基板の共通化が困難になり、制御基板の製作コストがアップする欠点がある。

【0007】また1個の制御基板が異なる複数種類の制御機能を備えているため、遊技プログラムの一部を変更する等、一部の制御機能を変更する場合には、その遊技プログラムの一部の変更が他の制御機能にも波及して、それらを一緒に変更しない限り、制御機能の一部すら変更できないようなこともあり、制御機能の変更が困難である。

【0008】更に制御基板の一部の制御機能に故障等が

発生した場合には、その故障とは関係のない制御機能の部分を含めて制御基板を一体として交換する必要があり、この点でもコストアップを招く一因となる。

【0009】本発明は、このような問題点に鑑み、制御基板の単機能化を図り、一部の制御基板を異なる機種に共通に使用可能にしたり、制御機能の変更を容易に変更可能にする等、製作コストを低減でき、しかも故障等による制御基板の交換を低コストで容易にできる組み合わせ遊技機を提供することを目的とする。

【0010】

【課題を解決するための手段】本発明は、遊技領域26の下部に複数個の入賞口38を有する入賞口手段27を備え、前記遊技領域26にゲーム毎に所定数の遊技球を打ち込みながら、その終了毎に所定の休止時間をおいてゲームを繰り返し可能にした組み合わせ遊技機において、複数個の制御機能を備え、その各制御機能別に複数個の制御基板22、34、47、49、51、59、103、136を設けたものである。

【0011】

【発明の実施の形態】以下、本発明の実施形態を図面に基いて詳述する。図1～図9は本発明をメダル投入式のアレンジボール機に採用した一実施形態を例示する。このアレンジボール機は、図1～図4に示すように、外枠1と、この外枠1の前側に配置された前枠2とを備えた遊技機本体3を有し、その前枠2は左右一端側の縦方向のヒンジ4（図7参照）を介して外枠1に開閉及び着脱自在に装着されている。

【0012】遊技機本体3には、その前面側に前面パネル5が装着されると共に、外枠1側にメダルホッパー6、補助タンク7、電源ユニット8等が設けられ、前枠2側に遊技盤9、発射手段10、メダル選別手段11が設けられる等、遊技機本体3の内部で前面パネル5の裏側に、遊技盤9を含む各種の内部機構が設けられている。

【0013】メダルホッパー6は遊技媒体としてのメダルを貯留するもので、このメダルホッパー6には、投入メダルを受け入れるメダルシュート12と、内部のメダルが満杯状態のときに、余剰メダルを補助タンク7へと溢流させる溢流口13と、景品用のメダルを払い出すメダル払い出し手段14とが設けられている。メダル払い出し手段14は、メダルホッパー6内のメダルを景品用又は返却用として払い出すためのもので、メダルホッパー6の下部側に設けられ、モータ等の駆動手段15によりメダルホッパー6内の回転体（図示省略）を駆動して、メダル払い出し口16から前側へとメダルを払い出すようになっている。なお、補助タンク7は出し入れ自在である。電源ユニット8には電源基板17が設けられている。

【0014】遊技盤9は、前枠2の内部の遊技盤装着枠18と支持枠19との間に裏側から嵌脱自在に嵌合さ

れ、遊技盤装着枠18の裏側に設けられた複数個の締結手段20により着脱自在に固定されている。従って、遊技盤9は、遊技機本体3の前部側、取り分け前枠2に裏側から着脱自在である。遊技盤装着枠18は門型状で、その上側及び左右両側が支持枠19の上側で前枠2の内側面に固定されている。支持枠19は、遊技盤9を下側から受ける遊技盤受け部21を上縁側に一体に備え、前枠2の内部に左右方向に架設されている。支持枠19の裏側には、払い出し制御基板22を収納する払い出し基板ケース23が着脱自在に装着されている。

【0015】遊技盤9の前面には、図1に示すように、ガイドレール25が環状に装着されると共に、このガイドレール25の内側の遊技領域26の下部に入賞口手段27が配置され、また入賞口手段27の上側に誘導図柄表示手段28、特定入賞手段29、得点増加手段24、作動手段30、31、普通入賞手段32、33等の各遊技部品が配置されている。なお、入賞口手段27と各遊技部品との間には、多数の遊技釘（図示省略）が設けられている。

【0016】入賞口手段27は、図5、図7に示すように、遊技盤9の開口部36に裏側から着脱自在に装着された入賞ケース37と、この入賞ケース37に横一列状等に形成され且つ前側から入賞した遊技球を遊技盤9の裏側へと誘導する複数個、例えば16個の入賞口38と、各入賞口38に入賞した遊技球を検出する複数個、例えば16個の入賞検出スイッチ39とを備え、遊技盤9に沿って落下する遊技球が何れかの入賞口38に入賞して、入賞検出スイッチ39がその遊技球を検出するようになっている。

【0017】誘導図柄表示手段28は、1個又は複数個、例えば3個の誘導図柄28aを変動表示可能であって、停電した場合の停電時点の遊技情報、停電復旧後のゲームの復帰予告、復帰時の遊技条件、その他の各種の遊技情報を遊技者に報知するための液晶表示手段40により兼用されている。

【0018】各誘導図柄28aは、作動手段30が遊技球を検出することを条件に所定時間変動して、「7・7・7」等の特定態様又はそれ以外の非特定態様で停止するようになっている。なお、誘導図柄28aには数字図柄等の適宜図柄が使用されている。誘導図柄表示手段28の裏側には、図柄制御基板34を収納した図柄基板ケース35が着脱自在に装着されている。

【0019】特定入賞手段29は、誘導図柄表示手段28の変動後の誘導図柄28aが特別態様で停止し確定した後に所定時間開放する開閉体29aを備えると共に、その内部が複数個（例えば3個）の領域に分割され、その一部（例えば中央）が特別作動領域29bとなっている。特別作動領域29bは、遊技球が通過したときに所定条件に基づいて後述の特別遊技状態を発生させ、再度、遊技球が通過したときに、その特別遊技状態を終了

させるためのものである。

【0020】得点増加手段24は遊技球が入賞したときに得点を増加させるためのもので、特別遊技状態が発生した場合に作動手段31が遊技球を検出することを条件に所定時間（例えば約3.4秒間）開放する開閉体30aを備え、この得点増加手段24に遊技球が入賞したときに得点を増加（例えば2倍）させるようになっている。

【0021】なお、特定入賞手段29、得点増加手段24、普通入賞手段32、33は、遊技盤9の前側で入賞した遊技球を遊技盤9の裏側に誘導するように構成され、これらに遊技球が入賞したときに、それに対応する1個又は複数個の入賞口38への遊技球の入賞と同等に取り扱われるようになっている。

【0022】例えば、特定入賞手段29は入賞口38の11番目及び14番目に、得点増加手段24は11～13番目及び5番目に夫々対応する等、入賞口手段27の遊技球が入賞し難い入賞口38、又は入賞役が成立し難い入賞口38に対応して、それに遊技球が入賞したときに、対応する入賞口38に遊技球が入賞したと同様に、その入賞口38に対応する入賞表示部（後述）が入賞を表示するようになっている。

【0023】遊技盤9の裏面には、図2及び図3に示すように入賞口手段27、誘導図柄表示手段28、特定入賞手段29、得点増加手段24、作動手段30、31等の各遊技部品を裏側から覆う裏カバー45と、この裏カバー45の下側に配置された球集合ケース46とが着脱自在に装着され、その裏カバー45の裏面に、主制御基板47を収納する主基板ケース48と、ランプ表示制御基板49を収納するランプ表示基板ケース50、音声制御基板51を収納する音声基板ケース52とが着脱自在に装着されている。

【0024】球集合ケース46は、入賞口手段27、特定入賞手段29、得点増加手段24等の遊技部品を経て遊技盤9の裏側に誘導された遊技球を集合させるためのもので、図5、図7及び図8に示すように、上側が開口する球集合部41と、この球集合部41で集合した遊技球を下方へと排出する排出口42とを有し、入賞ケース37の下側に遊技盤9の裏側に装着されている。なお、入賞口38に入賞した遊技球は、入賞検出スイッチ39で検出された後、入賞口手段27等の内部に停留することなく、球集合ケース46を経て排出口42から排出されるようになっている。

【0025】球集合ケース46の排出口42は、待機通路68の長さを容易に確保できるように、球集合ケース46の左右方向の略中央よりも球送り手段69と反対側に偏位して配置されている。また入賞口手段27の左右両側には、特定入賞手段29、得点増加手段24等からの遊技球を球集合ケース46の球集合部41へと案内する球案内通路43が、裏カバー45内を経て球集合ケー

ス46側に突出するように装着されている。

【0026】発射手段10は、遊技球をガイドレール25を経て遊技盤9の遊技領域26へと発射させるためのもので、図1～図3に示すように、発射レール53と、発射レール53上の遊技球をガイドレール25側に向かって打撃する打撃槌54と、打撃槌54を遊技球の打撃方向に付勢する発射バネ（図示省略）と、カム機構55を介して発射バネに抗しながら打撃槌54を反打撃方向へと間欠的に揺動させるモータ等の発射駆動手段56と、遊技者の把持により発射駆動手段56を起動させ且つその回動操作により発射バネのバネ圧を調整可能な発射ハンドル57とを備え、取り付け板58等を介して支持枠19に着脱自在に装着されている。取り付け板58には、発射制御基板59を収納する発射基板ケース60が着脱自在に装着されている。

【0027】発射レール53は、遊技盤9側のガイドレール25に対応して支持枠19の前側等に装着されている。打撃槌54は発射レール53上の遊技球を打撃するように、発射レール53に対応して支持枠19の前側等に配置され、取り付け板58に前後方向の枢軸により揺動自在に軸支されている。発射ハンドル57は、図5に示すように、前面パネル5側の通孔61を貫通して前側に突出する支持筒62の前端部側に設けられており、遊技者が前面パネル5の前側で把持して回動操作できるようになっている。なお、発射ハンドル57には、遊技者の把持又は操作を検出するタッチスイッチ（図示省略）のタッチ片が設けられている。

【0028】発射レール53の前側には、発射レール53及びガイドレール25の発射レール53側の一部分を前側から覆うレールカバー63が設けられている。このレールカバー63は、例えば前面パネル5に左右方向に架設された支持部材64に着脱自在に装着されている。

【0029】発射手段10側と遊技盤9側との間には、図3、図5及び図8に示すように、これらを含む遊技球用の循環経路65が閉ループ状に形成され、その循環経路65内に複数の遊技球が封入されている。循環経路65は、発射手段10により発射された遊技球を遊技盤9側へと案内する発射側経路66と、遊技盤9の裏側に通過した遊技球を発射手段10側へと戻す戻り側経路67とを備えている。発射側経路66は発射レール53、ガイドレール25等により構成され、また戻り側経路67は球集合ケース46、待機通路68、球送り手段69等により構成されている。

【0030】待機通路68は、遊技盤9を通過して戻って来た遊技球を待機させるためのもので、支持枠19の裏側等の前枠2側に、発射手段10側が低くなるように左右方向に傾斜させて着脱自在に装着され、その上流側が遊技盤9の下端と干渉しない位置で球集合ケース46の排出口42に下側から連通している。球送り手段69は、発射手段10の発射動作に連動して待機通路68内

の遊技球を1個ずつ発射レール53上へと送るためのもので、発射レール53と待機通路68の下流側端部との間で支持枠19等に着脱自在に装着されている。

【0031】なお、循環経路65中の遊技球の封入個数は、1ゲームの必要最低個数以上（例えば16～25個程度）が望ましいが、少なくとも複数個あれば良い。また待機通路68は、その封入個数分の遊技球の全て、又は下流側の一部（数個程度）が一列状に整列する程度の長さであることが望ましい。

【0032】メダル選別手段11は、後述のメダル投入口75から投入されたメダルの正否を選別するためのもので、図6及び図8に示すように、メダル投入口75に対応して支持枠19等に着脱自在に装着されている。そして、このメダル選別手段11は、メダルの移動中に重量、外形、材質等を基準に正否を判別し、その判別結果に応じて不良なメダルを返却シュート76を経て後述のメダル案内樋77へと戻し、正常な（正規の）メダルをメダルホッパー6のメダルシュート12へと案内するようになっている。メダル選別手段11には、正規のメダルを検出するためのメダル検出スイッチ78がその判別部よりも下流側に設けられている。

【0033】前面パネル5は、少なくとも遊技盤9の前側に対応するガラス扉82と、その他の部分との複数個に分割されている。例えば前面パネル5は、図5及び図6に示すように、例えば遊技盤9の前面側に対応するガラス扉82の他に、ガラス扉82の上側に配置された上パネル83と、ガラス扉82の下側に配置された中間パネル84と、中間パネル84の下側に配置された下パネル85との複数個に分割され、その下パネル85を除く上パネル83、ガラス扉82、中間パネル84が、前枠2のヒンジ4と同一側で縦方向のヒンジ86により前枠2に対して個別に開閉自在に枢着されている。

【0034】ガラス扉82は、遊技盤9の遊技領域26に対応する窓孔87が形成された扉枠88と、その窓孔87を塞ぐように扉枠88に装着されたガラス板89とを備えている。上パネル83は前枠2の上部側に配置され、特別遊技状態、その他のゲーム状態等を表示する上部表示手段81が装着されている。上部表示手段81は、上パネル83に着脱自在に装着された表示カバー90と、表示カバー90内に設けられた1個又は複数個の表示ランプ91とを備え、その表示ランプ91がゲーム状態に応じて点滅発光するようになっている。表示カバー90は、遊技機本体3の左右方向の略全幅に亘って前方に突出すると共に、その前側が後ろ下がり傾斜状に構成されている。

【0035】中間パネル84は、図5～図7に示すように、前方に張り出す張り出し部94を有し、この張り出し部94の上部側に、前下がり傾斜する表示パネル部95と操作パネル部96とが設けられ、また張り出し部94の下側に、その下端から前枠2側へと後方に屈曲す

る底壁部93が設けられている。なお、中間パネル84の下端部は、その開閉時に発射ハンドル57と干渉しないように、発射ハンドル57よりも上側で下パネル85と分離され、中間パネル84を閉じたときに、下パネル85の上端部に前側から当接するか、又は下パネル85の上端部と上下に重なるようになっている。下パネル85の裏側には、スピーカ等の音声発生手段92が着脱自在に装着されている。

【0036】表示パネル部95はガラス扉82の下辺側の近傍に左右方向に細長く形成され、この表示パネル部95の手前側に操作パネル部96が設けられている。表示パネル部95には、左右方向の略中央部分に入賞表示手段97が設けられ、この入賞表示手段97の左右方向の一方にメダル数表示手段98が、他方に得点表示手段99が夫々設けられている。なお、表示パネル部95は、各表示手段97～99の表示状態が確認し易くなるように、操作パネル部96よりも傾斜角度が大になっているが、操作パネル部96と略同一角度にしても良い。

【0037】入賞表示手段97は、入賞口手段27の各入賞口38と対応する複数個、例えば16個の入賞表示部100を備え、その各入賞表示部100が入賞口手段27の各入賞口38と相対して前後方向に近接するように横一列状に配置されている。そして、各入賞表示部100は、遊技球が何れかの入賞口38に入賞したときに、それに対応する入賞表示部100が発光、その他によってその入賞を遊技者に表示するようになっている。各入賞表示部100には、各入賞口38と対応して一端側から順番に番号が付されている。なお、入賞表示手段97は、入賞口手段27よりも上側の遊技領域26の中央部等に、入賞表示部100を縦横に所定数（例えば個）ずつ組み合わせて配置しても良い。

【0038】メダル数表示手段98は、メダル投入口75から投入されたメダルの保有枚数（預託メダル数）を表示するためのものであり、得点表示手段99は、入賞役の成立により付与された得点又は景品用メダルの未払い出し分の得点を表示するためのものであって、これらはメダルの個数、得点を数字で表示するように適宜表示手段により構成されている。なお、得点表示手段99に代えて、又は得点表示手段99と共に獲得メダル数表示手段を設け、その獲得メダル数表示手段により、得点に応じて獲得した獲得メダル数又は未払い出し分の獲得メダル数を表示するようにしても良い。

【0039】操作パネル部96には、メダル投入口75、手動選択スイッチ105、自動選択スイッチ106及び返却スイッチ107が設けられている。操作パネル部96の裏側には、預託制御基板103を収納した預託基板ケース104が着脱自在に装着されている。

【0040】メダル投入口75は、操作パネル部96の左右方向の一方側でヒンジ4、86に近い側の端部若しくはその近傍に配置され、このメダル投入口75よりも

左右方向の中央側に手動選択スイッチ105と自動選択スイッチ106と返却スイッチ107とが左右方向に一列状に配置されている。

【0041】メダル投入口75は、遊技対価としてのメダルを投入して預託するためのもので、少なくとも1ゲームに必要な規定数の複数枚、好ましくは複数ゲーム分の多数枚のメダルを投入し得る大きさのホッパー状に構成されている。なお、メダル投入口75の下部側の出口75aは、メダル選別手段11に対してメダルを1枚ずつ供給し得るように狭くなっている。

【0042】メダル投入口75の外側には、多数枚のメダルを投入したときにも、出口75a側でメダルが整列するようにメダル投入口75を微震動させる振動付与手段108が装着されている。振動付与手段108は、メダル投入口75にメダルを投入したときに作動するようになっている。なお、メダル投入口75は、一度の投入枚数が1ゲームに必要な規定数以下のメダル数、例えばメダルを1枚ずつ投入できる程度のものでも良い。

【0043】手動選択スイッチ105は、その操作毎に1ゲームずつのゲームを開始可能にするためのもので、この手動選択スイッチ105を操作したときに、預託対価である預託メダル数から1ゲーム分の遊技対価である規定数の複数枚、例えば4枚分のメダルを減算する処理を行い、1ゲーム分のゲームが開始可能な状態になるようになっている。

【0044】自動選択スイッチ106は、所定の休止期間において繰り返し連続的にゲームを開始可能にするためのもので、この自動選択スイッチ106を操作したときに、1ゲーム分の遊技対価である規定数以上のメダルの預託分があれば、手動選択スイッチ105を操作しない限り、各ゲームの開始前にその預託メダルから規定数のメダルを減算する処理を行い、その後ゲームが開始可能な状態になるようになっている。

【0045】返却スイッチ107は、預託メダルの返却を求めるためのもので、この返却スイッチ107を操作したときに、メダル払い出し手段14が作動して預託分のメダルをメダルホッパー6から払い出すようになっている。

【0046】手動選択スイッチ105、自動選択スイッチ106、返却スイッチ107には、押しボタン式、その他のものが使用されている。また手動選択スイッチ105、自動選択スイッチ106には、その操作部側にランプ等の選択表示手段(図示省略)が設けられ、その選択表示手段で選択状況を表示するようになっている。なお、選択表示手段は、手動選択スイッチ105、自動選択スイッチ106の近傍に設けても良い。

【0047】下パネル85は、前枠2の下部側に固定されている。下パネル85には、その下部側の左右方向の略中央にメダル受け皿109とメダル案内樋77とが前後に設けられ、またメダル受け皿109の左右方向の一

方側で且つヒンジ4、86に近い側に灰皿110が、反対側に手寄せ台111が夫々設けられている。メダル受け皿109、灰皿110及び手寄せ台111は、下パネル85から前方に突出しており、その前端は面一状になっている。なお、下パネル85に、発射ハンドル57を支持する支持筒62を前後方向に貫通させる通孔61が形成されている。

【0048】メダル受け皿109は、メダル払い出し手段14から払い出されたメダル、及び返却シュート76を経て返却された不良メダル等を貯留するためのものである。メダル案内樋77は、メダル払い出し手段14から払い出されたメダル、返却シュート76を経て返却された不良メダルをメダル受け皿109へと案内するためのもので、下パネル85から後方に突出するようにメダル受け皿109に一体又は別体に設けられている。

【0049】手寄せ台111の上側には発射ハンドル57があり、これら手寄せ台111及び発射ハンドル57は、ヒンジ4、86、メダル投入口75に対して左右方向の反対側の端部若しくはその近傍に配置されている。手寄せ台111は、発射ハンドル57を操作するとき手の一部を乗せておくためのもので、この手寄せ台111と発射ハンドル57との間隔は、手寄せ台111上に手の一部を乗せた状態でも発射ハンドル57を操作できるし、乗せない状態でも操作できる程度に設定されている。

【0050】また発射ハンドル57の上側には、中間パネル84の張り出し部94に、上側へと円弧状に凹入する凹部112が形成され、発射ハンドル57と張り出し部94との間に、発射ハンドル57を把持したときに、手が中間パネル84の張り出し部94に接触しない程度の間隔が確保されている。

【0051】図9はアレンジボール機の制御系のブロック図である。この制御系は、図9に示すように基板の単機能化を図るべく複数種類の制御機能別に分けられ、その各制御機能別に電源基板17、払い出し制御基板22、主制御基板47、ランプ表示制御基板49、音声制御基板51、発射制御基板59、預託制御基板103に分けて実装されている。

【0052】主制御基板47は、主として遊技盤9側の遊技動作の制御を行うためのもので、この主制御基板47には主制御手段120が装着されている。主制御手段120は、入賞処理手段121、乱数発生手段122、遊技状態判定手段123、誘導増加装置124、精算処理手段125、ゲーム選択制御手段126、返却制御手段127、制御コマンド送信手段128等を備え、CPU、ROM、RAM等の電子部品により構成されている。

【0053】入賞処理手段121は、入賞口手段27等への遊技球の入賞に関連する入賞処理を行うためのもので、入賞口手段27の入賞口38等に遊技球が入賞した

場合に、その入賞の確定後に各入賞口38に対応する入賞表示手段97の入賞表示部100に入賞表示を行わせる機能と、入賞の確定後に入賞役の正否を判定する機能とを有する。乱数発生手段122は、遊技状態決定用乱数、その他の所定の乱数を繰り返し発生するようになっている。

【0054】遊技状態判定手段123は、乱数発生手段122からの抽選乱数値に基づいて特別遊技か否かの遊技状態を判定するためのもので、作動手段30が遊技球を検出することを条件に乱数発生手段122の遊技状態決定乱数の発生乱数値を抽選して、その抽選乱数値が特別遊技判定乱数値のときに特別遊技と判定し、また特別遊技判定乱数値以外のときに非特別遊技と判定するようになっている。

【0055】誘導増加装置124は遊技者に有利な特別遊技状態を発生させる特別遊技状態発生手段129を構成するためのもので、遊技状態判定手段123の判定結果が特別遊技の場合に、誘導図柄表示手段28の変動後の誘導図柄28aが「7・7・7」等の特別態様で停止した後に、所定ゲーム数(複数ゲーム)、例えば14ゲームに亘って特別遊技状態を発生させて作動手段31を有効にして、得点増加手段24に遊技球が入賞することを条件に、得点を増加(例えば2倍)させるようになっている。

【0056】精算処理手段125は、各ゲーム毎に得点等の遊技価値を付与する等の精算処理を行うためのもので、入賞処理手段121が入賞役の成立を判定した場合に得点を付与し、また特別遊技状態が発生した場合に得点増加手段24に遊技球が入れば、それまでの得点を2倍に増加させるようになっている。

【0057】ゲーム選択制御手段126は、手動選択スイッチ105、自動選択スイッチ106の操作に基づいて単独ゲームと連続ゲームとを選択するためのもので、手動選択スイッチ105を操作した場合にその操作毎に1ゲームを行う単独ゲームを、自動選択スイッチ106を操作した場合に所定の休止時間をおいて連続的にゲームを行う連続ゲームを夫々選択するようになっている。返却制御手段127は、返却スイッチ114の操作があった場合に預託制御基板103からの預託メダル数を読み込んで、その預託メダルをメダル払い出し手段14により払い出させるためのものである。

【0058】制御コマンド送信手段128は、各制御基板22、34、49、51、59、103に制御コマンドを一方向通信により送信するためのもので、遊技状態判定手段123の判定結果に基づいて図柄制御基板34側に図柄変動の制御コマンドを送信する機能、精算処理手段125の得点に基づいて払い出し制御基板22にメダル払い出しの制御コマンドを送信する機能、返却制御手段127からの預託メダルの返却の制御コマンドを送信する機能、特別遊技状態の発生等の遊技状態に基づ

て音声制御基板51側に音声発生制御コマンドを送信する機能、特別遊技状態の発生等の遊技状態に基づいてランプ表示制御基板49側にランプ表示の制御コマンドを送信する機能、ゲーム選択制御手段126の選択結果に基づいて発射制御基板59側に遊技球発射の制御コマンドを送信する機能、及びゲーム選択制御手段126の選択結果に基づいて預託制御基板103に預託制御の制御コマンドを送信する機能等を有する。

【0059】預託制御基板103は、預託された遊技媒体に関する制御を行うためのもので、投入メダル数を記憶中の預託メダル数に順次加算して預託メダル数を更新する機能と、ゲーム選択制御手段126の単独ゲーム、連続ゲームの選択結果に基づいてゲーム毎にその開始前に預託メダル数から1ゲームに必要な規定数分のメダルを遊技対価として減算処理する機能と、預託メダル数を更新する都度、その時点の預託メダル数をメダル数表示手段98に表示させる機能とを備え、CPU、ROM、RAM等により構成されている。なお、預託制御基板103は、手動選択スイッチ105を操作した場合にはその操作毎に、また自動選択スイッチ106を操作した場合には各ゲーム毎に夫々規定数のメダルを減算するようになっている。

【0060】電源基板17には、各部に給電する主電源手段、ゲーム中に停電した場合に主制御手段120の遊技状態の記憶を保持させるバックアップ電源手段等が設けられている。払い出し制御基板22は、得点に基づいて景品用のメダルの払い出し制御を行うためのもので、CPU、ROM、RAM等を備え、主制御基板47側から払い出しのコマンドがあった場合にメダル払い出し手段14を作動させて、景品用又は返却用のメダルを払い出させるようになっている。

【0061】ランプ表示制御基板49は、遊技状態に基づいて遊技盤9側及び/又は前面パネル5側の1個又は複数の表示ランプ130の表示制御を行うためのもので、CPU、ROM、RAM等を備え、主制御基板47側からの制御コマンドがあった場合に、表示ランプ130を発光又は点滅発光させるようになっている。音声制御基板51は、遊技状態に基づいて音声発生手段92が発生する効果音等の音声の制御を行うためのもので、CPU、ROM、RAM等を備え、主制御基板47側からの制御コマンドがあった場合に、音声発生手段92から所定の音声を発生させるようになっている。

【0062】発射制御基板59は、各ゲームの終了毎に所定の休止時間をおいて発射手段10の発射制御を行うためのもので、手動選択スイッチ105を操作した場合には、預託制御基板103が規定数のメダルの減算処理を行ったこと及び遊技者が発射手段10の発射ハンドル57を操作することを条件に、ゲーム選択制御手段126の単独ゲーム、連続ゲームに基づいて発射手段10を作動させ、発射手段10が所定数(16個)の遊技球を

遊技領域26に打ち込むまでその作動を継続させるようになっている。従って、制御系は、メダル投入口75に規定数以上のメダルを投入すれば、ゲームを開始可能な状態になる。

【0063】図柄制御基板34は、遊技状態判定手段123の判定結果に応じて誘導図柄表示手段28の誘導図柄28aの変動制御を行うためのもので、作動手段30の遊技球の検出により誘導図柄28aが所定時間の変動を開始し、遊技状態判定手段123の判定結果が特別遊技の場合に「7・7・7」等の特別態様、非特別遊技の場合に非特別態様で夫々停止すべく、所定時間変動後の誘導図柄28aを判定結果に基づいて特別態様又は非特別態様で停止させるようになっている。

【0064】次に、上記構成のアレンジボール機における動作を説明する。ゲームの開始に際しては、メダル投入口75に1ゲームに必要な規定数以上の複数枚のメダルを投入する。すると、各メダルはメダル投入口75内で整列してメダル選別手段11へと入り、そのメダル選別手段11で正否の判別を受け、不良メダルは返却シュート76からメダル受け皿109へと戻され、正規のメダルのみがメダルシュート12を経てメダルホッパー6へと落下する。

【0065】このときメダル検出スイッチ78が正規のメダルを検出し、預託制御基板103側でそのメダル数を計数して、記憶中の預託メダル数に加算して更新する。これによって遊技対価として規定数のメダルの減算処理が可能になるため、ゲームを開始可能になる。またメダルを投入すれば、預託制御基板103の制御によってメダル数表示手段98が預託メダル数を表示する。このため遊技者は、その表示によってその時点の預託メダル数を容易に確認できる。

【0066】次に手動選択スイッチ105を操作すると、ゲーム選択制御手段126が単独ゲームの指令を預託制御基板103、発射制御基板59、その他の各部に送り、預託制御基板103が預託メダル数から規定数分を減算し更新する処理を行い、これによって発射手段10が実際に遊技球を発射可能になる。なお、預託制御基板103が減算処理を行えば、メダル数表示手段98はその減算後の預託メダル数を表示する。

【0067】その後、遊技者が発射ハンドル57を把持して操作すると、発射制御基板59がゲーム選択制御手段126からの単独ゲームの指令に基づいて発射手段10を作動させ、球送り手段69が待機通路68内の遊技球を1個づつ発射レール53上に供給し、その発射レール53上の遊技球を打撃槌54で打撃して順次ガイドレール25を経て遊技盤9の遊技領域26へと打ち込んで行き、これによって通常のゲームが進行する。なお、規定数のメダルを投入した場合に、預託を経ずにゲームを開始させるようにしても良い。

【0068】遊技領域26に打ち込まれた遊技球は、入

賞口手段27の何れかの入賞口38に入賞するか、又は特定入賞手段29等に入賞して、遊技盤9の裏側へと案内された後、球集合ケース46を経て待機通路68へと順次戻されて行く。例えば、遊技球が入賞口手段27の何れかの入賞口38に入賞すると、その遊技球は入賞口38から遊技盤9の裏側へと案内され、球集合ケース46を経て待機通路68へと戻される。また、遊技球が入賞口38から遊技盤9の裏側へと通過するときに、入賞検出スイッチ39がその遊技球を検出し、入賞処理手段121の入賞処理によって、入賞表示手段97の対応する入賞表示部100が入賞を表示する。

【0069】入賞口手段27の入賞口38の内、その隣り合う4個の入賞口38に遊技球が入賞して入賞役が成立すると、入賞処理手段121が入賞役の成立を判定し、その入賞役の成立の難易度に応じて精算処理手段125が得点を付与する精算処理を行い、得点表示手段99がその得点を表示する。このため遊技者は、そのゲームで獲得した得点を得点表示手段99の表示によって容易に確認できる。

【0070】一方、得点が付与されると、メダル払い出し手段14が払い出し制御基板22の制御により作動して、その得点に応じてメダルホッパー6内のメダルをメダル払い出し口16からメダル受け皿109へと払い出す。これによって遊技者は、所定の利益を享受できる。なお、1ゲーム当たりの得点は最高10点であり、また1点当たりのメダルの払い出し枚数は4枚である。

【0071】作動手段30が遊技球の入賞を検出すると、遊技状態判定手段123が乱数発生手段122の発生乱数値を抽選して、その抽選乱数値から特別遊技にするか否かを判定すると共に、図柄制御基板34の制御により誘導図柄表示手段28の誘導図柄28aが変動を開始する。誘導図柄28aは、変動開始から所定時間経過した後、遊技状態判定手段123の判定結果に基づいて、その判定結果が特別遊技のときに特別態様となり、非特別遊技のときに非特別態様となるように、図柄制御基板34側で決定された種類の特別態様又は非特別態様で停止する。

【0072】誘導図柄28aが特別態様で停止し確定すると、特定入賞手段29の開閉体29aが開放する。そして、特定入賞手段29に入賞した遊技球がその内部の特別作動領域29bを通過すると、特別遊技状態発生手段129を構成する誘導増加装置124が作動して、作動手段31が有効になり、この作動手段31に遊技球が入賞する毎に得点増加手段24が所定時間開放する。そして、得点増加手段24の開放によって遊技球が入賞すると、精算処理手段125がそのゲーム中に獲得した得点を2倍に増加させる処理を行い、その得点に応じてメダルが払い出されるので、遊技者は有利な状態でゲームを行える。

【0073】従って、判定結果が特別遊技のときには、

そのゲームから14ゲームを終了するまで作動手段31の有効状態が継続する。このため14ゲーム間に亘って得点が2倍に増加することになり、一旦特別遊技状態になれば、遊技者はその後多大な利益を享受することができる。

【0074】遊技領域26に16個の遊技球を打ち込むと、発射制御基板59の制御により発射手段10が停止して1ゲームが終了し、次のゲームまで所定時間休止状態となる。従って、休止時間中に手動選択スイッチ105を操作しても、ゲーム選択制御手段126、預託制御基板103等は同様に機能するが、発射手段10は直ちには作動せず、休止時間の経過後に作動して遊技球の発射を開始する。

【0075】自動選択スイッチ106を操作したときには、預託メダル数が1ゲームに必要な規定数以上である限り、ゲーム選択制御手段126の連続ゲームの指令に基づいて預託制御基板103が各ゲーム毎に規定数のメダルの減算処理を行い、発射手段10が各ゲーム毎に遊技領域26へと所定数の遊技球を打ち込んで行く。従って、遊技者は、発射ハンドル57を操作するだけで、所定の休止時間をおきながら自動的に連続してゲームを行うことができる。

【0076】返却スイッチ114を操作したときには返却制御手段127が返却を指令し、預託制御基板103側に預託メダル数の記憶があることを条件に、払い出し制御基板22の制御により、メダル払い出し手段14が作動してメダルホッパー6から預託メダル数分のメダルをメダル受け皿109へと払い出す。

【0077】図10は本発明の第2の実施形態を例示し、預託制御手段135を主制御基板47側に設けたものである。第1の実施形態では、主制御基板47とは別に預託制御基板103を設けているが、この預託制御基板103を省略して、この第2の実施形態に示すように、その預託制御基板103に代わる預託制御手段135を主制御基板47側に組み込んでも良い。

【0078】図11は本発明の第3の実施形態を例示し、入賞表示手段97の入賞表示の制御を行う入賞表示制御基板136を主制御基板47とは別に設けたものである。このように入賞表示制御基板136を主制御基板47とは別に設けても良い。

【0079】このように各制御基板22、34、47、49、51、59、103、136をその制御機能別に別々に設けることによって、主制御機能、図柄制御機能等の一部が異なる複数種類の遊技機を製造する場合には、その制御機能の異なる制御基板22、34、47、49、51、59、103、136のみを変更すれば良く、各機種毎に制御基板22、34、47、49、51、59、103、136を製作する必要がなくなる。このため複数種類の遊技機に制御基板22、34、47、49、51、59、103、136を共通に使用す

る基板の共通化が容易になり、制御基板22、34、47、49、51、59、103、136の製作コストを低減できる。

【0080】また各制御機能別に制御基板22、34、47、49、51、59、103、136が異なっているため、プログラムの一部を変更する等、一部の制御機能を変更する場合には、その制御基板22、34、47、49、51、59、103、136のプログラムを変更すれば良く、一部のプログラムの変更が他の制御機能に波及するようなこともないので、制御機能の変更が容易である。制御基板22、34、47、49、51、59、103、136の一部の制御機能に故障等が発生した場合には、その故障とは関係のない制御機能の部分を含めて制御基板22、34、47、49、51、59、103、136を一体として交換する必要がなく、修理コストも削減できる。

【0081】以上、本発明の各実施形態について詳述したが、この実施形態に限定されるものではなく、本発明の趣旨を逸脱しない範囲内で種々の変更が可能である。例えば、実施形態では、メダル投入口75から投入されたメダルを預託制御基板103で1枚ずつ計数するようにしているが、規定の複数枚を単位として検出し、その検出を条件にゲームを開始可能にしても良い。

【0082】複数枚のメダルの投入でゲームを開始可能にするとき、実施形態では手動・自動の別を選択するようにしているが、ゲームに必要な預託メダルがある限り、発射ハンドル57を操作しておれば、所定の休止時間をおいて自動的にゲームを繰り返すようにしても良い。この場合にも、発射ハンドル57のタッチ片から手を放したときに、そのゲームの終了又は所定時間の経過を待ってゲームの継続を停止するように構成すれば、別段問題はない。

【0083】手動、自動を選択する選択スイッチを設ける場合にも、実施形態のように手動選択スイッチ105と自動選択スイッチ106とを別々に設ける必要はなく、1個の選択スイッチで手動、自動を選択するようにしても良い。この場合、選択スイッチの近傍等の適当箇所に手動選択表示手段、自動選択表示手段を設けることにより、遊技者は容易に手動、自動の区別が可能である。なお、選択表示手段を1個として、その表示の色、点滅の有無等により自動、手動を識別可能に表示するようにしても良い。

【0084】また実施形態では、手動選択スイッチ105を操作したときには、その操作によって預託制御基板103がそのゲームの開始前に規定数のメダル（遊技対価）の減算処理を行い、自動選択スイッチ106を操作したときには、その操作によって預託制御基板103がその各ゲームの開始前に規定数のメダルの減算処理を行うようにしているが、何れの場合にもメダルの投入後に遊技者が発射ハンドル57を操作することを条件に、預

託制御基板 103 がゲームの開始前に規定数のメダルの減算処理を行うようにしても良い。

【0085】預託メダルがない場合には、規定数のメダルを投入した後に手動選択スイッチ 105 を操作しなくても、預託制御基板 103 がそのメダルを自動的に処理をしてゲームを開始可能にするように構成（プログラム等により）しても良い。

【0086】実施形態では、外枠 1 とその前側の前枠 2 とから遊技機本体 3 を構成し、その前枠 2 の前面側に前面パネル 5 を設けているが、外枠 1 及び前枠 2 を一体にして遊技機本体 3 を構成し、この遊技機本体 3 の前面側に前面パネル 5 を開閉自在に設けても良い。遊技機本体 3 の前面に前面パネル 5 を設けるに当たっても、その前面パネル 5 を複数個に分割する必要は必ずしもない。ガラス扉 82 を含む前面パネル 5 の全体を一体に構成し、前枠 2 と前面パネル 5 は一体でも良い。その前面パネル 5 を遊技機本体 3 に対して開閉自在に設けても良い。1 ゲームに必要なメダルの枚数は 4 枚である必要はなく、1 枚以上であれば良い。また複数種類のメダルを使用可能にしても良い。

【0087】また実施形態では、遊技者が獲得したメダルを各ゲーム毎にメダル受け皿 109 に払い出すようにしたが、その都度払い出すのではなく、獲得メダル数を各ゲーム毎に預託メダル数に順次上限まで加算して更新すると共にメダル数表示手段 98 に表示し、例えば返却スイッチ 114 を操作したときに獲得メダル分を含む預託メダルをまとめて払い出すようにしても良い。

【0088】特別遊技状態が発生した場合、実施形態では得点を増加させるようにしているが、複数ゲームに亘って誘導図柄表示手段 28 の変動後の誘導図柄 28a が特定態様となる確率が通常確率から高確率に確率変動するようにしても良い。要するに遊技者に対して有利になる遊技状態であれば、その遊技内容は別段問題ではない。

【0089】各制御機能別に制御基板 22、34、47、49、51、59、103、136 を分ける場合、その制御基板 22、34、47、49、51、59、103、136 の数は必要に応じて適宜決定すれば良い。実施形態に例示の制御機能を更に細分化して、その夫々に対応して制御基板 22、34、47、49、51、59、103、136 を設けることも可能であるし、また一部の制御基板 22、34、47、49、51、59、103、136 に複数種類の制御機能を持たせることも可能である。

【0090】実施形態では入賞役が成立した場合に得点を付与するようにしているが、得点の付与に限らず、所定の遊技価値を付与するものであれば良い。また遊技媒体にはメダル以外のものを使用しても良い。

【0091】更に実施形態では、アレンジボール機について例示しているが、アレンジボール機その他、雀球遊技

機等の各種の組み合わせ遊技機でも同様に実施できることはいうまでもない。またメダル投入式その他、遊技球投入式でも良いし、カード等の有価媒体を挿入してゲームを行うものでも良い。

【0092】

【発明の効果】本発明では、遊技領域 26 の下部に複数個の入賞口 38 を有する入賞口手段 27 を備え、遊技領域 26 にゲーム毎に所定数の遊技球を打ち込みながら、その終了毎に所定の休止時間をおいてゲームを繰り返し可能にした組み合わせ遊技機において、複数個の制御機能を備え、その各制御機能別に複数個の制御基板 22、34、47、49、51、59、103、136 を設けているので、制御基板 22、34、47、49、51、59、103、136 を単機能化できる。従って、一部の制御基板 22、34、47、49、51、59、103、136 を異なる機種に共通に使用可能であり、また制御機能の変更が容易に可能であるため、製作コストを低減でき、しかも故障等による制御基板 22、34、47、49、51、59、103、136 の交換を低コストで容易にできる。

【図面の簡単な説明】

【図 1】本発明の第 1 の実施形態を示すアレンジボール機の正面図である。

【図 2】本発明の第 1 の実施形態を示すアレンジボール機の側面図である。

【図 3】本発明の第 1 の実施形態を示す前枠の背面図である。

【図 4】本発明の第 1 の実施形態を示す外枠の正面図である。

【図 5】本発明の第 1 の実施形態を示すアレンジボール機の縦断面図である。

【図 6】本発明の第 1 の実施形態を示すアレンジボール機の縦断面図である。

【図 7】本発明の第 1 の実施形態を示すアレンジボール機の横断面図である。

【図 8】本発明の第 1 の実施形態を示す戻り側経路部分の縦断面図である。

【図 9】本発明の第 1 の実施形態を示す制御系のブロック図である。

【図 10】本発明の第 2 の実施形態を示す制御系のブロック図である。

【図 11】本発明の第 3 の実施形態を示す制御系のブロック図である。

【符号の説明】

9 遊技盤

10 発射手段

22 払い出し制御基板

26 遊技領域

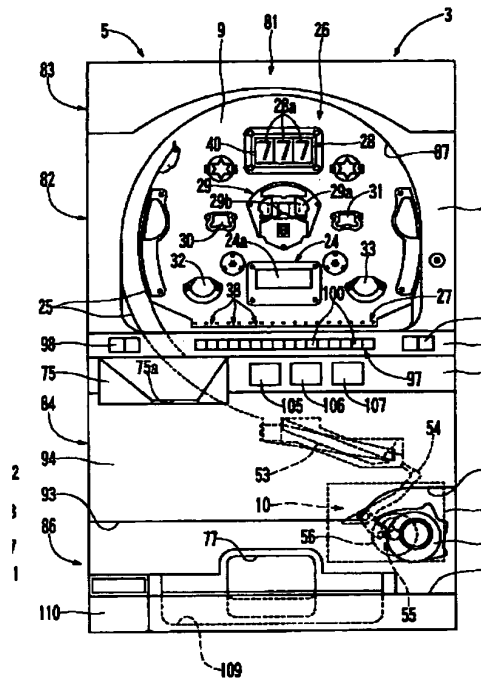
27 入賞口手段

28 誘導図柄表示手段

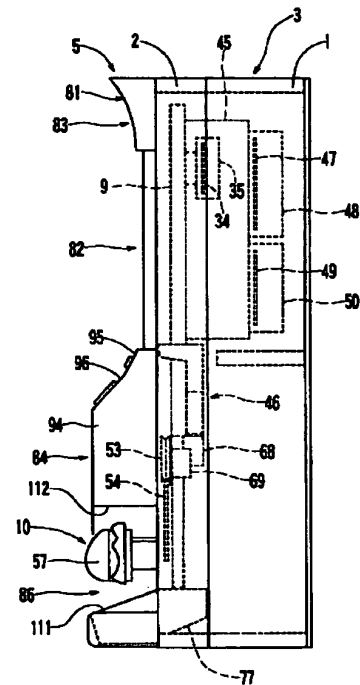
28 a 誘導図柄
 34 図柄制御基板
 38 入賞口
 47 主制御基板
 49 ランプ表示制御基板
 51 音声制御基板
 59 発射制御基板
 65 循環経路

* 66 発射側経路
 67 戻り側経路
 75 メダル投入口
 99 入賞表示手段
 100 入賞表示部
 103 預託制御基板
 130 表示ランプ
 * 136 入賞表示制御基板

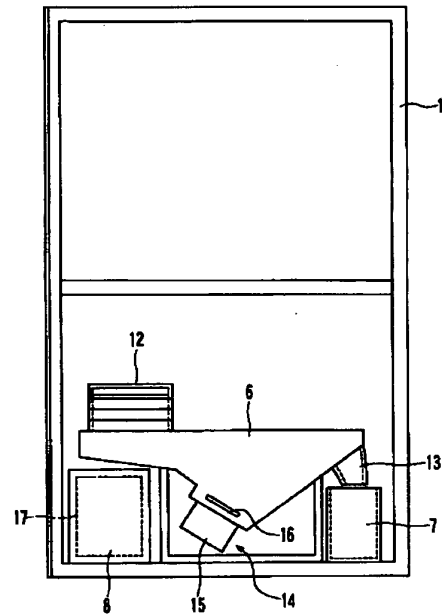
【図1】



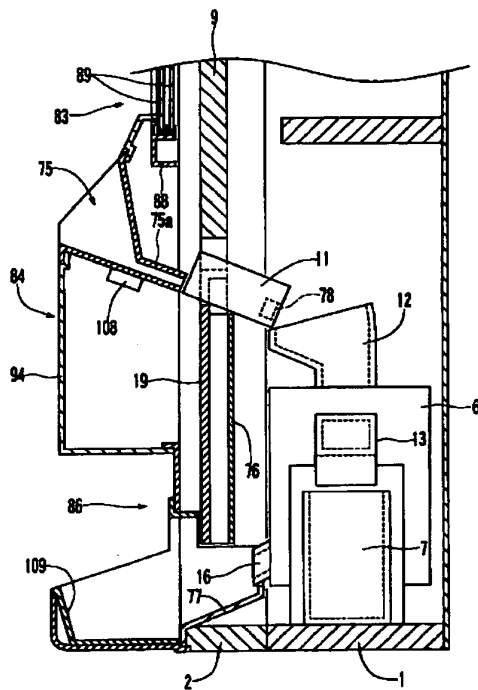
【図2】



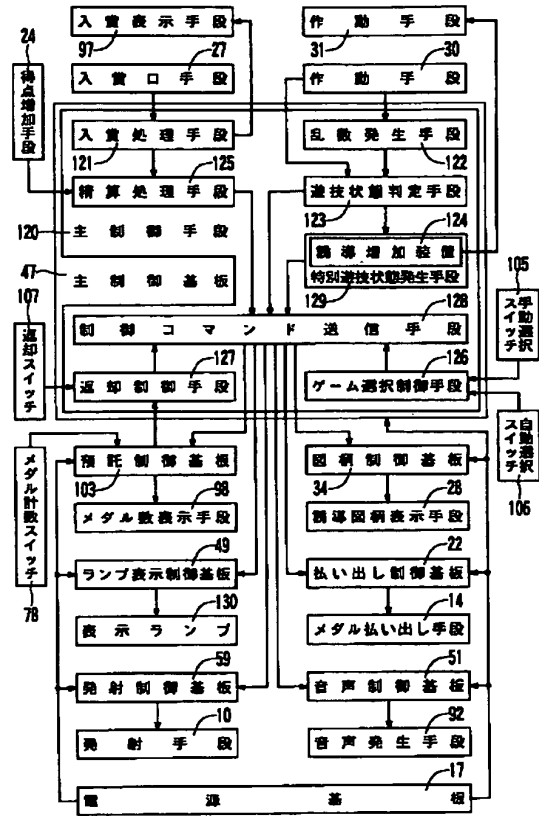
【図4】



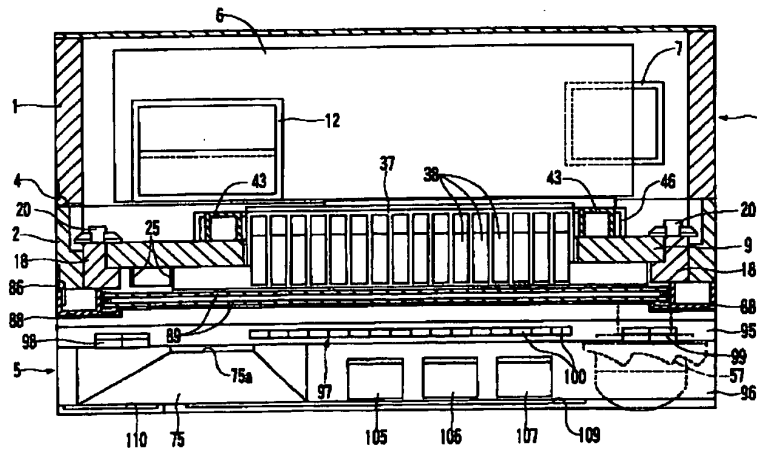
【図6】



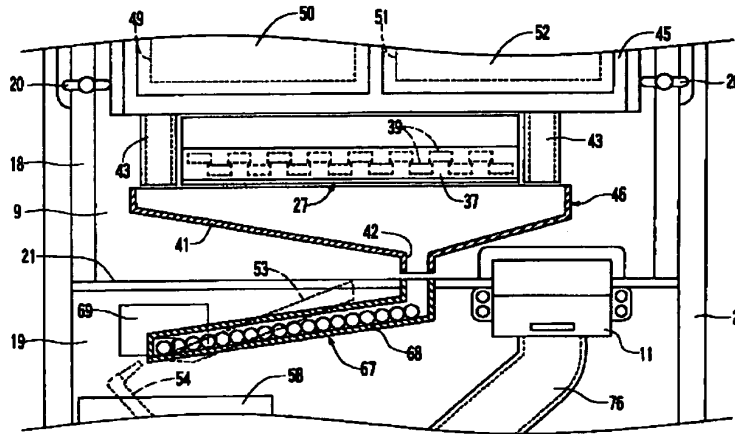
【圖9】



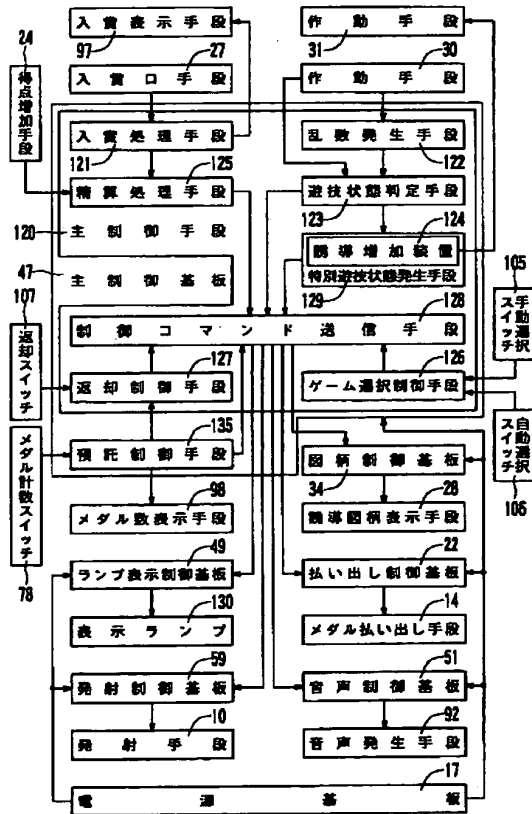
【図 7】



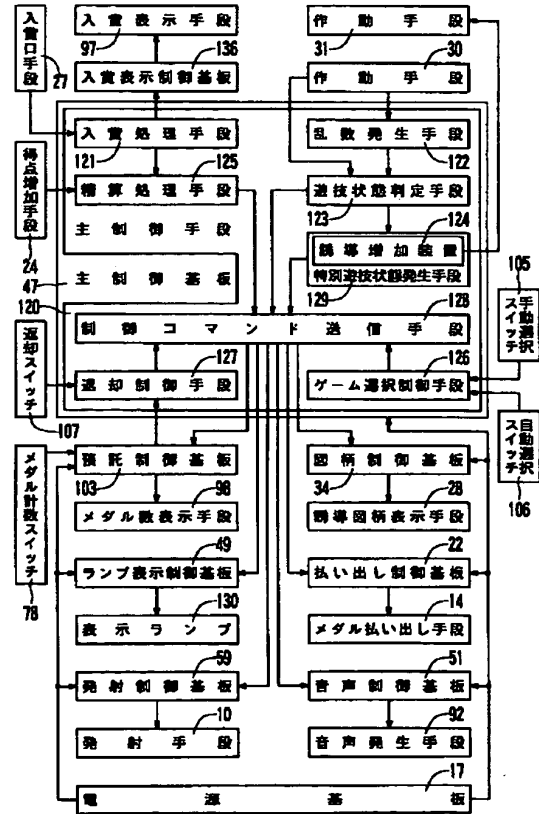
【図8】



【図10】



【図11】



*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

Bibliography

(19) [Country of Issue] Japan Patent Office (JP)
(12) [Official Gazette Type] Open patent official report (A)
(11) [Publication No.] JP,2002-172211,A (P2002-172211A)
(43) [Date of Publication] June 18, Heisei 14 (2002. 6.18)
(54) [Title of the Invention] Combination game machine
(51) [The 7th edition of International Patent Classification]
A63F 7/02 303
323
326
338
[FI]
A63F 7/02 303 A
323 A
326 Z
338
[Request for Examination] Tamotsu
[The number of claims] 9
[Mode of Application] OL
[Number of Pages] 14
(21) [Filing Number] Application for patent 2000-373326 (P2000-373326)
(22) [Filing Date] December 7, Heisei 12 (2000. 12.7)
(71) [Applicant]
[Identification Number] 391010943
[Name] *****, Inc.
[Address] 1-1-4, Uchihommachi, Chuo-ku, Osaka-shi, Osaka
(72) [Inventor(s)]
[Name] Tsukahara Keiji
[Address] 6, Shimohira, Tanyo-cho Mitsui, Ichinomiya-shi, Aichi-ken Inside of a
*****, Inc. development pin center,large
(74) [Attorney]
[Identification Number] 100100273

[Patent Attorney]

[Name] Yato Takashi

[Theme code (reference)]

2C088

[F term (reference)]

2C088 AA35 AA36 AA42 AA67 AA69 BA41 BC58 BC72 DA24 EA10 EA26

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

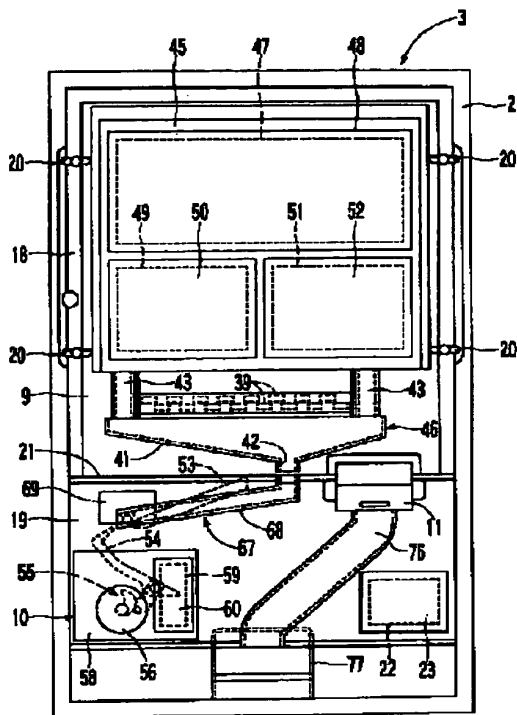
Summary

(57) [Abstract]

[Technical problem] Single functionalization of a control board is attained, manufacture cost can be reduced in a model which is different in some control boards, such as making it usable in common or enabling change of change of a control function easily, and it is provided with the combination game machine which can make exchange of the control board by failure etc. easy in a low cost.

[Means for Solution] It has two or more control functions, and two or more control boards 22, 47, 49, 51, and 59 are formed according to each of that control function.

[Translation done.]



[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.

2. **** shows the word which can not be translated.

3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The combination game machine characterized by providing or including the following A winning-a-prize mouth means to have two or more winning-a-prize mouths (38) in the lower part of a game field (26) (27) It sets to the combination game machine which set the predetermined quiescent time for the end of every, and made the game repeatable while driving the game sphere of a predetermined number into the aforementioned game field (26) for every game, and they are two or more

control functions. The control board (22) of plurality [exception / that control function / each], (34), (47), (49), (51), (59) (103) (136)

[Claim 2] Game board (9) Combination game machine according to claim 1 characterized by having the main-control substrate (47) which controls near game operation, the discharge control board (59) which performs discharge control of a discharge means (10) to fire a game sphere to a game field (26), and the expenditure control board (22) which performs expenditure control of the game medium for premiums based on acquisition game value.

[Claim 3] The combination game machine according to claim 1 or 2 characterized by having the deposition control board (103) which performs control about the deposited game medium.

[Claim 4] Guidance pattern of a guidance pattern display means (28) (28a) It is based on a game state and is [the pattern control board (34) which performs change control, the voice-control substrate (51) which controls voice based on a game state, and] a display lamp (130). Combination game machine given in any of the claims 1-3 characterized by having the lamp display control board (49) which performs a display control they are.

[Claim 5] Winning-a-prize display corresponding to the aforementioned winning-a-prize mouth (38) of the aforementioned winning-a-prize mouth means (27) (100) Winning-a-prize display-control substrate which controls the winning-a-prize display of the winning-a-prize display means (99) which it had (136) Combination game machine given in any of the claims 1-4 characterized by having they are.

[Claim 6] The combination game machine according to claim 2 to 5 characterized by transmitting control command to a predetermined control board by 1 direction communication from the aforementioned main-control substrate (47).

[Claim 7] A combination game machine given in any of the claims 1-7 characterized by having the function to deposit a game countervalue, the function which subtracts a game countervalue required for this game from the deposition countervalue before the start of a game, and the function whose start of a game is enabled after subtraction of the aforementioned game countervalue they are.

[Claim 8] A combination game machine given in any of the claims 1-7 characterized by having the function whose start of a game is enabled on condition that the predetermined medal of two or more sheets is thrown into the medal input port (75) which throws in a medal, and this medal input port (75) they are.

[Claim 9] A combination game machine given in any of the claims 1-9 characterized by having constituted the circulation path (65) of the shape of a closed loop characterized by providing the following, and enclosing two or more game spheres into this circulation path (65) they are A discharge means (10) to the game board (9) Discharge side path of guiding a game sphere (66) The aforementioned game board (9) Return-end path which returns a game sphere to the shell aforementioned discharge means (10) side (67)

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.

3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to combination game machines, such as an arrangement ball machine and a mahjong ball game machine.

[0002]

[Description of the Prior Art] A game playing-ball close type and a medal injection formula are in a combination game machine, for example, an arrangement ball machine. This kind of arrangement ball machine has arranged each game part, such as a guidance pattern display means, an operation means, a specific winning-a-prize means, and an increase means in value, to the up side, and has equipped it with the expenditure means which pays out game media, such as a medal, at the main part side of a game machine while it arranges a winning-a-prize mouth means have two or more winning-a-prize mouths in the lower part of the game field of the game board with which the main part of a game machine was equipped.

[0003] And if a predetermined number, for example, 16 game spheres, is driven in to a game field by the discharge means, the game sphere wins a prize of which winning-a-prize mouth of a winning-a-prize mouth means on the occasion of a game and the predetermined role of winning a prize is materialized Game value, such as a predetermined score, is given according to the difficulty of formation of the role of winning a prize. It pays out according to the acquisition game value, and game media, such as a game sphere and a medal, are paid out by the means. in "7, 7, 7", etc., the halt pattern after change of a guidance pattern display means specially in the case of a mode Game value, such as a score, is made to increase, when a game state occurs specially and a game sphere wins a prize of the increase means in value.

[0004] Although the electronics control method which controls by the control board equipped with the electronic parts of CPU, ROM, and RAM and others is adopted in

such an arrangement ball machine, the conventional control board has composition equipped with two or more kinds of control functions.

[0005]

[Problem(s) to be Solved by the Invention] For example, it equipped with the electronic parts with which a control function completely differs from a controlled system on one control board conventionally, such as having the pattern control function which performs change control of the guidance pattern of a guidance pattern display means other than the main-control function which controls game operation by the side of the game board on one main-control substrate, and the method which controls the controlled system which changes with the control boards based on a different control function has been adopted.

[0006] For this reason, in the former, while the number of control boards can be lessened, in manufacturing two or more kinds of game machines with which main-control function differs from a part of pattern control function, it is necessary to manufacture a control board for every model of that, communalization of the substrate which uses a control board for two or more kinds of game machines in common becomes difficult, and there is a fault which the manufacture cost of a control board raises.

[0007] Moreover, since it seems that a part of control function cannot be changed unless change of a part of the game program affects other control functions and changing a part of game program etc. changes them together in changing some control functions since it has two or more kinds of control functions from which one control board differs, change of a control function is difficult.

[0008] Furthermore, when failure etc. occurs in some control functions of a control board, it is necessary to exchange as one control boards including the portion of the control function which is unrelated to the failure, and becomes the cause which causes a cost rise also at this point.

[0009] this invention attains single functionalization of a control board in view of such a trouble, can reduce manufacture cost in a model which is different in some control boards, such as making it usable in common or enabling change of change of a control function easily, and aims at offering the combination game machine which can moreover make exchange of the control board by failure etc. easy in a low cost.

[0010]

[Means for Solving the Problem] Equipping the lower part of the game field 26 with a winning-a-prize mouth means 27 to have two or more winning-a-prize mouths 38, and driving the game sphere of a predetermined number into the aforementioned game field 26 for every game, in the combination game machine which set the predetermined quiescent time for the end of every, and made the game repeatable, this invention is equipped with two or more control functions, and forms two or more control boards 22, 34, 47, 49, 51, and 59,103,136 according to each of that control function.

[0011]

[Embodiments of the Invention] Hereafter, the operation gestalt of this invention is explained in full detail based on a drawing. Drawing 1 – drawing 9 illustrate 1 operation gestalt which adopted this invention as the arrangement ball machine of a medal injection formula. As this arrangement ball machine is shown in drawing 1 – drawing 4 , it has the main part 3 of a game machine equipped with the outer frame 1 and the front frame 2 arranged at the anterior of this outer frame 1, and the outer frame 1 is equipped with the front frame 2 free [opening and closing and attachment and detachment] through the hinge 4 (refer to drawing 7) lengthwise [by the side of a right-and-left end].

[0012] While the front-face side is equipped with a front panel 5, various kinds of internal mechanisms which contain the game board 9 in the background of a front panel 5 inside the main part 3 of a game machine — the medal hopper 6, an auxiliary tank 7, and power supply unit 8 grade are prepared in an outer frame 1 side, and the game board 9, the discharge means 10, and the medal sorting means 11 are formed in the front frame 2 side — are prepared in the main part 3 of a game machine.

[0013] The medal hopper 6 stores the medal as a game medium, and when the medal chute 12 which receives an injection medal, and an internal medal are in a full state, the overflow mouth 13 to which the overflow of the surplus medal is carried out to an auxiliary tank 7, and the medal expenditure means 14 which pays out the medal for premiums are formed in this medal hopper 6. The medal expenditure means 14 is for paying out the medal in the medal hopper 6 as the object for premiums, or an object for return, it is prepared in the lower part side of the medal hopper 6, drives the body of revolution in the medal hopper 6 (illustration ellipsis) by the driving means 15, such as a motor, and pays a medal out of the medal expenditure mouth 16 to an anterior. In addition, an auxiliary tank 7 can be taken freely in and out. The power supply substrate 17 is formed in the power supply unit 8.

[0014] The game board 9 fits in detachably from a background between the game board wearing frame 18 inside the front frame 2, and a housing 19, and is being fixed free [attachment and detachment] by two or more conclusion meanses 20 prepared in the background of the game board wearing frame 18. It can especially detach [therefore,] the game board 9 from a background and attach freely in the front frame 2 the anterior part side of the main part 3 of a game machine. The game board wearing frame 18 is a gate type-like, and the top and right-and-left both sides are being fixed to the medial surface of the front frame 2 with the housing 19 up side. A housing 19 equips a upper-limb side with the game board receptacle section 21 which receives the game board 9 from the bottom at one, and is constructed over the interior of the front frame 2 by the longitudinal direction. The background of a housing 19 is equipped with the expenditure substrate case 23 which contains the expenditure control board 22 free [attachment and detachment].

[0015] As shown in drawing 1 , while the front face of the game board 9 is annularly equipped with a guide rail 25, the winning-a-prize mouth means 27 is arranged at the lower part of the game field 26 inside this guide rail 25, and each game part of the

guidance pattern display means 28, the specific winning-a-prize means 29, the increase means 24 in a score, the operation means 30 and 31, the common winning-a-prize means 32, and 33 grades is arranged at the winning-a-prize mouth means 27 bottom. In addition, many game nails (illustration ellipsis) are formed between the winning-a-prize mouth means 27 and each game part.

[0016] The winning-a-prize case 37 with which the opening 36 of the game board 9 was equipped free [attachment and detachment] from the background as the winning-a-prize mouth means 27 was shown in drawing 5 and drawing 7 , The plurality 38 which guides the game sphere which was formed in this winning-a-prize case 37 in the shape of a horizontal single tier etc., and won a prize from the anterior to the background of the game board 9, for example, 16 winning-a-prize mouths, The game sphere which detects the game sphere which won a prize of each winning-a-prize mouth 38 and which is equipped with 16 winning-a-prize pilot switches 39 two or more, and falls along with the game board 9 wins a prize of which winning-a-prize mouth 38, and the winning-a-prize pilot switch 39 detects the game sphere.

[0017] The guidance pattern display means 28 is made to serve a double purpose by the liquid crystal display means 40 for reporting the game information at the power failure time when a change display of three guidance patterns 28a is possible and the electric current is cut off one or more, the return preliminary announcement of the game after power failure restoration, the game conditions at the time of a return, and various kinds of game information on other to a game person.

[0018] Each guidance pattern 28a predetermined-time-change-stops in a specific mode or the other non-specifying modes, such as "7, 7, and 7", on condition that the operation means 30 detects a game sphere. In addition, the pattern is suitably used for guidance pattern 28a for the number pattern etc. The background of the guidance pattern display means 28 is equipped with the pattern substrate case 35 which contained the pattern control board 34 free [attachment and detachment].

[0019] After guidance pattern 28a after change of the guidance pattern display means 28 is specially stopped and decided in a mode, while the specific winning-a-prize means 29 is equipped with opening-and-closing object 29a which carries out predetermined-time opening, the interior is divided into a field [two or more (for example, three pieces)], and the part (for example, center) has become operating-space 29b specially. Specially, operating-space 29b is for terminating the special game state based on predetermined conditions, when [below-mentioned] a game state is generated specially and a game sphere passes again, when a game sphere passes.

[0020] The increase means 24 in a score is for making a score increase, when a game sphere wins a prize, and a score is made to increase, when a game state occurs specially, it has predetermined-time (for example, for about 3.4 seconds) opening opening-and-closing object 30a on condition of the operation means 31 detecting a game sphere and a game sphere wins a prize of this increase means 24

in a score (for example, double precision).

[0021] In addition, when it is constituted so that the specific winning-a-prize means 29, the increase means 24 in a score, and the game sphere with which the winning-a-prize means 32 and 33 usually won a prize by the anterior of the game board 9 may be guided to the background of the game board 9, and a game sphere wins a prize of these, it is dealt with on a par with winning a prize of the game sphere to one piece or two or more winning-a-prize mouths 38 corresponding to it.

[0022] The specific winning-a-prize means 29 for example, to the 11th of the winning-a-prize mouth 38, and the 14th When a game sphere wins a prize of it corresponding to the winning-a-prize mouth 38 with which the game sphere of the winning-a-prize mouth means 27, such as corresponding to the 11-13th and the 5th, respectively, cannot win a prize easily, or the winning-a-prize mouth 38 with which the role of winning a prize cannot be materialized easily, the increase means 24 in a score The winning-a-prize display (after-mentioned) corresponding to the winning-a-prize mouth 38 displays winning a prize similarly that the game sphere won a prize of the corresponding winning-a-prize mouth 38.

[0023] As shown in drawing 2 and drawing 3, in the rear face of the game board 9, each game part of the winning-a-prize mouth means 27, the guidance pattern display means 28, the specific winning-a-prize means 29, the increase means 24 in a score, the operation means 30, and 31 grades A background to the wrap rear cover 45, The main substrate case 48 which it is equipped with the sphere set case 46 arranged at this rear-cover 45 bottom free [attachment and detachment], and contains the main-control substrate 47 at the rear face of the rear cover 45, It is equipped with the lamp display substrate case 50 which contains the lamp display control board 49, and the voice substrate case 52 which contains the voice-control substrate 51 free [attachment and detachment].

[0024] The sphere set case 46 is for gathering the game sphere guided to the background of the game board 9 through the game parts of the winning-a-prize mouth means 27, the specific winning-a-prize means 29, and increase means in score 24 grade. As shown in drawing 5, drawing 7, and drawing 8, the bottom has the sphere set section 41 which carries out opening, and the exhaust port 42 which discharges below the game sphere which gathered in this sphere set section 41, and the background of the game board 9 is equipped with it with the winning-a-prize case 37 down side. In addition, the game sphere which won a prize of the winning-a-prize mouth 38 is discharged from an exhaust port 42 through the sphere set case 46, without staying inside winning-a-prize mouth means 27 grade, after being detected by the winning-a-prize pilot switch 39.

[0025] Rather than the center of abbreviation of the longitudinal direction of the sphere set case 46, it biases to the sphere informer stage 69 and an opposite side, and the exhaust port 42 of the sphere set case 46 is arranged at them so that the length of the standby path 68 can be secured easily. Moreover, the right-and-left both sides of the winning-a-prize mouth means 27 are equipped with the sphere

guidance path 43 which shows the game sphere from the specific winning-a-prize means 29 and increase means in score 24 grade to the sphere set section 41 of the sphere set case 46 so that it may project in the sphere set case 46 side through the inside of a rear cover 45.

[0026] The discharge means 10 is for firing a game sphere to the game field 26 of the game board 9 through a guide rail 25. The blow hammer 54 which hits the game sphere on the discharge rail 53 and the discharge rail 53 toward a guide-rail 25 side as shown in drawing 1 – drawing 3, The discharge spring which energizes the blow hammer 54 in the blow direction of a game sphere (illustration abbreviation), The discharge driving means 56 which make the blow hammer 54 rock intermittently in the anti-blow direction, resisting a discharge spring through a cam mechanism 55, such as a motor, The discharge driving means 56 are started by a game person's grasping, and it has the discharge handle 57 which can adjust the spring pressure of a discharge spring by the rotation operation, and the housing 19 is equipped free [attachment and detachment] through the adapter plate 58 grade. The adapter plate 58 is equipped with the discharge substrate case 60 which contains the discharge control board 59 free [attachment and detachment].

[0027] The anterior of a housing 19 etc. is equipped with the discharge rail 53 corresponding to the guide rail 25 by the side of the game board 9. The blow hammer 54 is arranged at the anterior of a housing 19 etc. corresponding to the discharge rail 53, and is supported to revolve by the adapter plate 58 free [rocking] by the pivot of a cross direction so that the game sphere on the discharge rail 53 may be hit. As shown in drawing 5, the discharge handle 57 is formed in the front end section side of the support cylinder 62 which penetrates the through-hole 61 by the side of a front panel 5, and projects in an anterior, and a game person grasps it by the anterior of a front panel 5, and it has come to be able to carry out rotation operation of him. In addition, the piece of a touch of a touch switch (illustration abbreviation) which detects grasping or operation of a game person is prepared in the discharge handle 57.

[0028] The part by the side of the discharge rail 53 and the discharge rail 53 of a guide rail 25 is prepared in the wrap rail covering 63 from the anterior by the anterior of the discharge rail 53. The supporter material 64 constructed over the front panel 5 by the longitudinal direction is equipped with this rail covering 63 free [attachment and detachment].

[0029] As shown in drawing 3, drawing 5, and drawing 8, between the discharge means 10 side and the game board 9 side, the circulation path 65 containing these for game spheres is formed in the shape of a closed loop, and two or more game spheres are enclosed in the circulation path 65. The circulation path 65 is equipped with the discharge side path 66 of showing the game sphere discharged by the discharge means 10 to the game board 9 side, and the return-end path 67 which returns the game sphere which passed to the background of the game board 9 to the discharge means 10 side. The discharge side path 66 is constituted by the

discharge rail 53 and guide-rail 25 grade, and the return-end path 67 is constituted by the sphere set case 46, the standby path 68, and the sphere informer stage 69 grade.

[0030] The standby path 68 is for making the game sphere which passed the game board 9 and has returned stand by, it makes a longitudinal direction incline and it is equipped with it free [attachment and detachment] so that the discharge means 10 side may become low at the front frames 2 side, such as a background of a housing 19, and the upstream is opening it for free passage from the bottom to the exhaust port 42 of the sphere set case 46 in the soffit of the game board 9, and the position in which it does not interfere. The sphere informer stage 69 is for discharge operation of the discharge means 10 being interlocked with, and sending one game sphere in the standby path 68 at a time to up to the discharge rail 53, and the housing 19 grade is equipped with it free [attachment and detachment] between the discharge rail 53 and the downstream edge of the standby path 68.

[0031] In addition, although more than the required minimum number (for example, about 16-25 pieces) of one game of the enclosure number of the game sphere in the circulation path 65 is desirable, it should just have more than one at least. Moreover, as for the standby path 68, it is desirable that it is the length of the grade where all the game spheres for the enclosure number or a part of downstream (some grade) aligns in the shape of a single tier.

[0032] The medal sorting means 11 is for sorting out the right or wrong of the medal thrown in from the below-mentioned medal input port 75, and as shown in drawing 6 and drawing 8, corresponding to medal input port 75, the housing 19 grade is equipped with it free [attachment and detachment]. And during movement of a medal, this medal sorting means 11 distinguishes right or wrong on the basis of a weight, an appearance, the quality of the material, etc., returns a faulty medal through the return chute 76 to below-mentioned medal ***** 77 according to the distinction result, and shows a normal (it is regular) medal to the medal chute 12 of the medal hopper 6. The medal pilot switch 78 for detecting a regular medal for the medal sorting means 11 is formed in the downstream rather than the distinction section.

[0033] The front panel 5 is divided into the plurality of the glass door 82 corresponding to the anterior of the game board 9, and other portions at least. For example, the top of the panel 83 arranged at the glass door 82 bottom other than the glass door 82 corresponding to the front-face side of the game board 9 as a front panel 5 is shown in drawing 5 and drawing 6, It is divided into the plurality of the middle panel 84 arranged at the glass door 82 bottom, and the under panel 85 arranged at the middle panel 84 bottom. The top of the panel 83 except the under panel 85, the glass door 82, and the middle panel 84 are individually pivoted free [opening and closing] to the front frame 2 by the lengthwise hinge 86 by the same side as the hinge 4 of the front frame 2.

[0034] The glass door 82 is equipped with the door frame 88 with which the window

hole 87 corresponding to the game field 26 of the game board 9 was formed, and the glass plate 89 with which the door frame 88 was equipped so that the window hole 87 might be plugged up. The top of the panel 83 is arranged at the upper part side of the front frame 2, and it is equipped with an up display means 81 to display a game state, other game states, etc. specially. The up display means 81 is equipped with the display covering 90 with which the top of the panel 83 was equipped free [attachment and detachment], and one piece or two or more display lamps 91 which were prepared in the display covering 90, and the display lamp 91 carries out blink luminescence according to a game state. While the display covering 90 covers the abbreviation full of the longitudinal direction of the main part 3 of a game machine and projects ahead, the anterior is constituted in the shape of an inclination lower in the back.

[0035] As the middle panel 84 is shown in drawing 5 – drawing 7 , the bottom wall section 93 which the display-panel section 95 and the control-panel section 96 which incline to have the buckling-of-track section 94 juttied out ahead, and fall a front in the upper part side of this buckling-of-track section 94 are prepared, and is back crooked from the soffit to the front frame 2 side to the buckling-of-track section 94 down side is formed. In addition, the soffit section of the middle panel 84 laps with the upper-limit section of the under panel 85 up and down in contact with the upper-limit section of the under panel 85 from an anterior, when it dissociates with the under panel 85 above the discharge handle 57 and the middle panel 84 is closed so that it may not interfere with the discharge handle 57 at the time of the opening and closing. The background of the under panel 85 is equipped with the voice generating meanses 92, such as a loudspeaker, free [attachment and detachment].

[0036] The display-panel section 95 is formed in a longitudinal direction long and slender near the lower side side of the glass door 82, and the control-panel section 96 is formed in the near side of this display-panel section 95. The winning-a-prize display means 97 is formed in a part for the abbreviation center section of a longitudinal direction at the display-panel section 95, the medal numeral means 98 is formed in one side of the longitudinal direction of this winning-a-prize display means 97, and the score display means 99 is formed in another side, respectively. In addition, although the degree of tilt angle is size from the control-panel section 96 as it is easy to check the display state of each display meanses 97-99 and it becomes, you may make the display-panel section 95 into the control-panel section 96 and an abbreviation same angle.

[0037] The winning-a-prize display means 97 is equipped with each winning-a-prize mouth 38 of the winning-a-prize mouth means 27, and the corresponding plurality 100, for example, 16 winning-a-prize displays, and it is arranged in the shape of a horizontal single tier so that each of that winning-a-prize display 100 may carry out phase correspondence with each winning-a-prize mouth 38 of the winning-a-prize mouth means 27 and may approach a cross direction. And when a game sphere wins

a prize of which winning-a-prize mouth 38, as for each winning-a-prize display 100, the winning-a-prize display 100 corresponding to it displays the winning a prize on a game person by luminescence and others. Corresponding to each winning-a-prize mouth 38, the number is given to each winning-a-prize display 100 in an order from the end side. In addition, you may arrange the winning-a-prize display means 97 in the center section of the game field 26 above the winning-a-prize mouth means 27 etc., combining the winning-a-prize display 100 a predetermined number (for example, individual) every in all directions.

[0038] It is suitably constituted by the display means so that it is for the medal numeral means 98 displaying the possession number of sheets (the number of deposition medals) of the medal thrown in from medal input port 75, and it may be for displaying the score for un-paying out of the score to which the score display means 99 was given by formation of the role of winning a prize, or the medal for premiums and these may display the number of a medal, and a score numerically. In addition, it replaces with the score display means 99, or an acquisition medal numeral means is established with the score display means 99, and you may make it display the number of acquisition medals or the number of acquisition medals for un-paying out gained according to the score by the acquisition medal numeral means.

[0039] Medal input port 75, the manual selecting switch 105, the automatic selecting switch 106, and the return switch 107 are formed in the control-panel section 96. The background of the control-panel section 96 is equipped with the deposition substrate case 104 which contained the deposition control board 103 free [attachment and detachment].

[0040] Medal input port 75 is arranged by the one side of the longitudinal direction of the control-panel section 96 in the edge of the side near hinges 4 and 86, or its near, and the manual selecting switch 105, the automatic selecting switch 106, and the return switch 107 are arranged in the shape of a single tier rather than this medal input port 75 at the longitudinal direction at the central site of a longitudinal direction.

[0041] the thing for medal input port 75 throwing in the medal as a game countervalue, and depositing -- it is -- two or more sheets of the number of conventions required for at least 1 game -- desirable -- a part for two or more games -- many -- it is constituted in the shape of [of the size which can throw in the medal of several sheets] a hopper In addition, outlet 75a by the side of the lower part of medal input port 75 is narrow so that it can supply a medal one sheet at a time to the medal sorting means 11.

[0042] the outside of medal input port 75 -- many -- it is equipped with an oscillating grant means 108 to fine-shake medal input port 75 so that a medal may align by the outlet 75a side when the medal of several sheets is thrown in The oscillating grant means 108 operates, when a medal is thrown into medal input port 75. In addition, the number of medals below the number of conventions which needs one-time injection number of sheets for one game, for example, the thing of the

grade into which it can throw a medal one sheet at a time, is sufficient as medal input port 75.

[0043] The manual selecting switch 105 is for enabling a start of an every one game for the operation of every, when this manual selecting switch 105 is operated, it performs processing which subtracts two or more sheets of the number of conventions which is a game countervalue for one game, for example, the medal for four sheets, and the start of the game for one game of it is attained from the number of deposition medals which is a deposition countervalue.

[0044] The automatic selecting switch 106 is for setting and enabling the start of a game of a predetermined idle period continuously repeatedly, if there is a deposited part of the medal more than the number of conventions which is a game countervalue for one game when this automatic selecting switch 106 is operated, unless the manual selecting switch 105 will be operated, it performs processing which subtracts the medal of the number of conventions from the deposition medal before the start of each game, and a start of a game is attained after that in it.

[0045] The return switch 107 is for asking for return of a deposition medal, and when this return switch 107 is operated, the medal expenditure means 14 operates and it pays a deposited medal out of the medal hopper 6.

[0046] The thing of a push button formula and others is used for the manual selecting switch 105, the automatic selecting switch 106, and the return switch 107. Moreover, selection display meanses (illustration ellipsis), such as a lamp, are prepared in the control unit side, and a selection situation is expressed to the manual selecting switch 105 and the automatic selecting switch 106 as the selection display means. In addition, you may establish a selection display means near the manual selecting switch 105 and the automatic selecting switch 106.

[0047] The under panel 85 is being fixed to the lower part side of the front frame 2. The medal saucer 109 and medal ***** 77 are formed in the center of abbreviation of the longitudinal direction by the side of the lower part forward and backward, and it is the one side of the longitudinal direction of the medal saucer 109, and ***** 111 is formed for the ash pan 110 in the under panel 85 at the opposite side at the side near hinges 4 and 86, respectively. The medal saucer 109, an ash pan 110, and ***** 111 are ahead projected from the under panel 85, and the front end has become flat-tapped [-like]. In addition, the through-hole 61 which makes a cross direction penetrate the support cylinder 62 which supports the discharge handle 57 is formed in the under panel 85.

[0048] The medal saucer 109 is for storing the medal paid out of the medal expenditure means 14, the poor medal returned through the return chute 76. Medal ***** 77 is for showing the medal paid out of the medal expenditure means 14, and the poor medal returned through the return chute 76 to the medal saucer 109, and it is prepared in the medal saucer 109 at one or another object so that it may project in back from the under panel 85.

[0049] There is a discharge handle 57 in the ***** 111 bottom, and these

***** 111 and the discharge handle 57 are arranged to hinges 4 and 86 and medal input port 75 in the edge of the opposite side of a longitudinal direction, or its near. ***** 111 is for putting a part of hand, when operating the discharge handle 57, and the interval of this ***** 111 and the discharge handle 57 is set as the grade which can operate the state which put a part of hand on ***** 111, or the discharge handle 57, and can be operated also in the state where it does not put.

[0050] Moreover, the crevice 112 which turns a reentrant to the buckling-of-track section 94 of the middle panel 84 circularly up is formed, and when it *****s with the discharge handle 57 and the discharge handle 57 is grasped between the sections 94, the interval of the grade to which a hand does not contact the buckling-of-track section 94 of the middle panel 84 is secured to the discharge handle 57 bottom.

[0051] Drawing 9 is the block diagram of the control system of an arrangement ball machine. This control system is divided according to two or more kinds of control functions to attain single functionalization of a substrate, as shown in drawing 9, is divided into the power supply substrate 17, the expenditure control board 22, the main-control substrate 47, the lamp display control board 49, the voice-control substrate 51, the discharge control board 59, and the deposition control board 103, and is mounted according to each of that control function.

[0052] The main-control substrate 47 is for mainly controlling game operation by the side of the game board 9, and this main-control substrate 47 is equipped with the main-control means 120. The main-control means 120 is equipped with the winning-a-prize processing means 121, the random-number-generation means 122, the game state judging means 123, the increase equipment 124 in guidance, the settlement-of-accounts processing means 125, the game selection-control means 126, the return control means 127, and control command transmitting means 128 grade, and is constituted by electronic parts, such as CPU, ROM, and RAM.

[0053] A winning-a-prize processing means 121 is for performing the winning-a-prize processing relevant to winning a prize of the game sphere to winning-a-prize mouth means 27 grade, and when a game sphere wins a prize of the winning-a-prize mouth 38 grade of the winning-a-prize mouth means 27, it has the function of making a winning-a-prize display performing to the winning-a-prize display 100 of the winning-a-prize display means 97 corresponding to each winning-a-prize mouth 38 after decision of the winning a prize, and the function of judging the right or wrong of the role of winning a prize after decision of winning a prize. The random-number-generation means 122 repeats the random number for game state determination, and other predetermined random numbers, and is generated.

[0054] The game state judging means 123 is for judging the game state of being a game specially based on the lottery random number value from the random-number-generation means 122. On condition that the operation means 30 detects a game sphere, lots are cast in the generating random number value of the game state

determination random number of the random-number-generation means 122, when the lottery random number value is a game judging random number value specially, it judges with a game specially, and it judges with an un-special game specially at the times other than a game judging random number value.

[0055] The increase equipment 124 in guidance is for constituting a special game state generating means 129 to generate a special game state advantageous to a game person. When the judgment result of the game state judging means 123 is a game specially, after guidance pattern 28a after change of the guidance pattern display means 28 stops ["7 / 7, 7",] in a mode specially The number of predetermined games (two or more games), for example, 14 games, is covered, a game state is generated specially, the operation means 31 is confirmed, and a score is made to increase, on condition that a game sphere wins a prize of the increase means 24 in a score (for example, double precision).

[0056] The settlement-of-accounts processing means 125 is for performing settlement-of-accounts processing of giving game value, such as a score, for every game, and if a game sphere enters to the increase means 24 in a score when a score is given when the winning-a-prize processing means 121 judges formation of the role of winning a prize, and a game state generates specially, it will make the score till then increase to double precision.

[0057] The game selection-control means 126 is for choosing an independent game and a continuation game based on operation of the manual selecting switch 105 and the automatic selecting switch 106, and when the automatic selecting switch 106 is operated for the independent game which performs one game for the operation of every when the manual selecting switch 105 is operated, it chooses the continuation game which sets the predetermined quiescent time and performs a game continuously, respectively. The return control means 127 are for reading the number of deposition medals from the deposition control board 103, when there is operation of the return switch 114, and making the deposition medal pay out by the medal expenditure means 14.

[0058] The control command transmitting means 128 is for transmitting control command to each control boards 22, 34, 49, 51, and 59,103 by 1 direction communication. The function to transmit the control command of pattern change to the pattern control board 34 side based on the judgment result of the game state judging means 123, The function to pay out based on the score of the settlement-of-accounts processing means 125, and to transmit the control command of medal expenditure to a control board 22, The function to transmit the control command of return of the deposition medal from the return control means 127, The function to transmit the control command of voice generating to the voice-control substrate 51 side based on game states, such as generating of a game state, specially, The function to transmit the control command of lamp display to the lamp display control board 49 side based on game states, such as generating of a game state, specially, It has the function to transmit the control command of game sphere discharge to the

discharge control board 59 side based on the selection result of the game selection-control means 126, the function to transmit the control command of deposition control to the deposition control board 103 based on the selection result of the game selection-control means 126, etc.

[0059] The deposition control board 103 is for performing control about the deposited game medium. The function which adds to the number of deposition medals while memorizing the number of injection medals one by one, and updates the number of deposition medals, The function which makes a game countervalue the medal for several convention minutes required for one game, and carries out subtraction processing from the number of deposition medals before the start for every game based on the selection result of the independent game of the game selection-control means 126, and a continuation game, Whenever it updates the number of deposition medals, it has the function to which the number of deposition medals at the time is displayed on the medal numeral means 98, and is constituted by CPU, ROM, RAM, etc. In addition, the deposition control board 103 subtracts the medal of the number of conventions for every game, respectively, when the manual selecting switch 105 is operated and the automatic selecting switch 106 is operated for the operation of every again.

[0060] When the electric current is cut off in a main-power-supply means to supply electric power to each part, and a game, a backup power supply means to make storage of the game state of the main-control means 120 hold etc. is prepared in the power supply substrate 17. It is equipped with CPU, ROM, RAM, etc., the expenditure control board 22 is for performing expenditure control of the medal for premiums based on a score, when there is a command of expenditure from the main-control substrate 47 side, it operates the medal expenditure means 14, and it makes the object for premiums, or the medal for return pay out.

[0061] The lamp display control board 49 is for performing the display control of one piece or two or more display lamps 130 by the side of the game board 9 and/or a front panel 5 based on a game state, and when it has CPU, ROM, RAM, etc. and there is control command from the main-control substrate 47 side, it emits light or emits [blink] light for a display lamp 130. The voice-control substrate 51 is for controlling voice, such as a sound effect which the voice generating means 92 generates based on a game state, and when it has CPU, ROM, RAM, etc. and there is control command from the main-control substrate 47 side, it generates predetermined voice from the voice generating means 92.

[0062] When the discharge control board 59 is for setting the predetermined quiescent time for every end of each game, and performing discharge control of the discharge means 10 and the manual selecting switch 105 is operated On condition that the deposition control board's 103 having performed subtraction processing of the medal of the number of conventions and a game person operate the discharge handle 57 of the discharge means 10 The discharge means 10 is operated based on the independent game of the game selection-control means 126, and a continuation

game, and the operation is made to continue until the discharge means 10 drives the game sphere of a predetermined number (16 pieces) into the game field 26.

Therefore, a control system will be in the state which can start a game, if the medal more than the number of conventions is thrown into medal input port 75.

[0063] The pattern control board 34 is for performing change control of guidance pattern 28a of the guidance pattern display means 28 according to the judgment result of the game state judging means 123. Guidance pattern 28a starts change of a predetermined time by detection of the game sphere of the operation means 30.

When the judgment result of the game state judging means 123 is a game specially, in the case of special modes, such as "7, 7, and 7", and an un-special game, guidance pattern 28a after predetermined-time change is specially stopped in a mode or an un-special mode based on a judgment result that it should stop in an un-special mode, respectively.

[0064] Next, operation in the arrangement ball machine of the above-mentioned composition is explained. On the occasion of the start of a game, the medal of two or more sheets more than the number of conventions required for one game is thrown into medal input port 75. Then, each medal aligns within medal input port 75, goes into the medal sorting means 11, and receives distinction of right or wrong with the medal sorting means 11, a poor medal is returned to the medal saucer 109 from the return chute 76, and only a regular medal falls to the medal hopper 6 through the medal chute 12.

[0065] At this time, a regular medal is detected, counting of the number of medals is carried out by the deposition control board 103 side, and the medal pilot switch 78 adds to the number of deposition medals under storage, and updates. Since subtraction processing of the medal of the number of conventions is attained as a game countervalue by this, a start of a game is attained. Moreover, if a medal is thrown in, the medal numeral means 98 will display the number of deposition medals by control of the deposition control board 103. For this reason, a game person can check easily the number of deposition medals at the time by the display.

[0066] Next, if the manual selecting switch 105 is operated, the game selection-control means 126 will send instructions of an independent game to each part of the deposition control board 103, the discharge control board 59, and others, processing to which the deposition control board 103 subtracts and updates several convention minutes from the number of deposition medals will be performed, and discharge of a game sphere of the discharge means 10 will actually be attained by this. In addition, if the deposition control board 103 performs subtraction processing, the medal numeral means 98 will display the number of deposition medals after the subtraction.

[0067] Then, if a game person grasps and operates the discharge handle 57, the discharge control board 59 will operate the discharge means 10 based on instructions of the independent game from the game selection-control means 126. The sphere informer stage 69 supplies one game sphere in the standby path 68 at a time on the discharge rail 53, and the game sphere on the discharge rail 53 is hit by

the blow hammer 54, a himself is devoted to the game field 26 of the game board 9 through a guide rail 25 one by one, and the usual game advances by this. In addition, when the medal of the number of conventions is thrown in, you may make it make a game start without passing through deposition.

[0068] After the game sphere driven into the game field 26 wins a prize of which winning-a-prize mouth 38 of the winning-a-prize mouth means 27, or wins a prize of specific winning-a-prize means 29 grade and is guided to the background of the game board 9, it is returned to the standby path 68 one by one through the sphere set case 46, and goes. For example, if a game sphere wins a prize of which winning-a-prize mouth 38 of the winning-a-prize mouth means 27, the game sphere will be guided from the winning-a-prize mouth 38 to the background of the game board 9, and will be returned to the standby path 68 through the sphere set case 46.

Moreover, when a game sphere passes from the winning-a-prize mouth 38 to the background of the game board 9, the winning-a-prize pilot switch 39 detects the game sphere, and the winning-a-prize display 100 to which the winning-a-prize display means 97 corresponds by winning-a-prize processing of the winning-a-prize processing means 121 displays winning a prize.

[0069] If a game sphere wins a prize of the four adjacent winning-a-prize mouth 38 among the winning-a-prize mouths 38 of the winning-a-prize mouth means 27 and the role of winning a prize is materialized, the winning-a-prize processing means 121 will judge formation of the role of winning a prize, the settlement-of-accounts processing which the settlement-of-accounts processing means 125 gives in a score according to the difficulty of formation of the role of winning a prize will be carried out, and the score display means 99 will display the score. For this reason, a game person can check easily the score gained in the game by the display of the score display means 99.

[0070] On the other hand, if a score is given, the medal expenditure means 14 pays out, it will operate by control of a control board 22, and the medal in the medal hopper 6 will be paid out of the medal expenditure mouth 16 to the medal saucer 109 according to the score. A game person can enjoy predetermined profits by this. In addition, the score per game is a maximum of ten points, and there is four expenditure number of sheets of the medal per point.

[0071] If the operation means 30 detects winning a prize of a game sphere, while the game state judging means 123 will judge whether lots are cast and the generating random number value of the random-number-generation means 122 is specially made into a game from the lottery random number value, guidance pattern 28a of the guidance pattern display means 28 starts change by control of the pattern control board 34. After carrying out predetermined-time progress from a change start, guidance pattern 28a stops in the special mode or un-special mode of a kind determined by the pattern control board 34 side so that it may become a mode specially based on the judgment result of the game state judging means 123 when the judgment result is a game specially, and it may become an un-special mode at

the time of an un-special game.

[0072] If guidance pattern 28a is specially stopped and decided in a mode, opening-and-closing object 29a of the specific winning-a-prize means 29 will open. And the increase equipment 124 in guidance of the interior which constitutes the game state generating means 129 specially if operating-space 29b is passed specially operates [the game sphere which won a prize of the specific winning-a-prize means 29], the operation means 31 becomes effective, and whenever a game sphere wins a prize of this operation means 31, the increase means 24 in a score carries out predetermined-time opening. And if a game sphere wins a prize by opening of the increase means 24 in a score, since processing which the score which the settlement-of-accounts processing means 125 gained in the game is made to increase to double precision will be performed and a medal will pay out according to the score, a game person can perform a game in the advantageous state.

[0073] Therefore, when a judgment result is a game specially, the effective state of the operation means 31 continues until it ends 14 games from the game. For this reason, once a score will increase to double precision and will be in a game state specially for 14 games, a game person can enjoy great profits after that.

[0074] If 16 game spheres are driven into the game field 26, the discharge means 10 will stop by control of the discharge control board 59, one game will be completed, and it will be in predetermined-time hibernation to the following game. Therefore, although the game selection-control means 126 and deposition control board 103 grade function similarly even if it operates the manual selecting switch 105 during the quiescent time, the discharge means 10 is not ***** (ed) immediately, but operates after progress of the quiescent time, and starts discharge of a game sphere.

[0075] When the automatic selecting switch 106 is operated, as long as it is more than the number of conventions that needs the number of deposition medals for one game, based on instructions of the continuation game of the game selection-control means 126, the deposition control board 103 performs subtraction processing of the medal of the number of conventions for every game, and the discharge means 10 drives in the game sphere of a predetermined number to the game field 26 for every game. Therefore, a game person only operates the discharge handle 57, and he can perform a game continuously automatically, setting the predetermined quiescent time.

[0076] When the return switch 114 is operated, the return control means 127 order it return, on condition that the deposition control board 103 side has storage of the number of deposition medals, by control of the expenditure control board 22, the medal expenditure means 14 operates and the medal for several deposition medal minutes is paid out of the medal hopper 6 to the medal saucer 109.

[0077] Drawing 10 illustrates the 2nd operation gestalt of this invention, and forms the deposition control means 135 in the main-control substrate 47 side. Although the deposition control board 103 is formed independently [the main-control

substrate 47] with the 1st operation gestalt, this deposition control board 103 may be omitted, and as shown in this 2nd operation gestalt, you may also include the deposition control means 135 replaced with the deposition control board 103 in the main-control substrate 47 side.

[0078] Drawing 11 illustrates the 3rd operation gestalt of this invention, and forms independently [the main-control substrate 47] the winning-a-prize display-control substrate 136 which controls the winning-a-prize display of the winning-a-prize display means 97. Thus, you may form independently [the main-control substrate 47] the winning-a-prize display-control substrate 136.

[0079] When manufacturing two or more kinds of game machines with which the parts of a main-control function, a pattern control function, etc. differ by forming separately each control boards 22, 34, 47, 49, 51, and 59,103,136 according to the control function, it becomes unnecessary thus, to manufacture control boards 22, 34, 47, 49, 51, and 59,103,136 for every model that what is necessary is to change only the control boards 22, 34, 47, 49, 51, and 59,103,136 from which the control function differs. For this reason, communalization of the substrate which uses two or more control boards 22, 34, 47, 49, 51, and 59,103,136 for the game machine of a kind in common becomes easy, and can reduce the manufacture cost of control boards 22, 34, 47, 49, 51, and 59,103,136.

[0080] Moreover, since it seems that change of a part of programs does not affect other control functions, change of a control function is [that what is necessary is just to change the program of the control boards 22, 34, 47, 49, 51, and 59,103,136] easy for changing a part of program etc., when changing some control functions, since control boards 22, 34, 47, 49, 51, and 59,103,136 differ according to each control function. When failure etc. occurs in some control functions of control boards 22, 34, 47, 49, 51, and 59,103,136, it is not necessary to exchange as one the control boards 22, 34, 47, 49, 51, and 59,103,136 including the portion of the control function which is unrelated to the failure, and repair cost can also be cut down.

[0081] As mentioned above, although each operation gestalt of this invention was explained in full detail, change various by within the limits which is not limited to this operation gestalt and does not deviate from the meaning of this invention is possible. For example, with an operation gestalt, although it is made to carry out counting of the medal thrown in from medal input port 75 by the deposition control board 103 one sheet at a time, two or more sheets of a convention may be detected as a unit, and on condition that the detection, you may enable the start of a game of them.

[0082] As long as there is a deposition medal required for a game and it is operating the discharge handle 57 although it is made to choose a hand control and automatic exception with an operation gestalt when enabling a start of a game by injection of the medal of two or more sheets, the predetermined quiescent time is set and you may make it repeat a game automatically. Also in this case, if it constitutes so that it may wait for the end of the game, or progress of a predetermined time and continuation of a game may be stopped when its hold of the piece of a touch of the

discharge handle 57 is released, it will be satisfactory specially.

[0083] When preparing the selecting switch which chooses hand control and automatic, it is not necessary to form separately the manual selecting switch 105 and the automatic selecting switch 106 like an operation gestalt, and you may make it choose hand control and automatic by one selecting switch. In this case, hand control and an automatic distinction are easily possible for a game person by preparing a manual selection display means and an automatic selection display means in the suitable part near the selecting switch etc. In addition, you may make it display automatic and hand control identifiable by the color of the display, the existence of blink, etc., using a selection display means as one piece.

[0084] moreover, with an operation gestalt, when the manual selecting switch 105 is operated When the deposition control board 103 performs subtraction processing of the medal (game countervalue) of the number of conventions before the start of the game and operates the automatic selecting switch 106 by the operation Although the deposition control board 103 is made to perform subtraction processing of the medal of the number of conventions before the start of each of that game by the operation On condition that a game person operates the discharge handle 57 after an injection of a medal in any case, the deposition control board 103 may be made to perform subtraction processing of the medal of the number of conventions before the start of a game.

[0085] When there is no deposition medal, after throwing in the medal of the number of conventions, even if it does not operate the manual selecting switch 105, you may constitute so that the deposition control board 103 may process automatically and may enable the start of a game of the medal (program etc.).

[0086] Although the main part 3 of a game machine was constituted from an outer frame 1 and a front frame 2 of the anterior and the front panel 5 is formed in the front-face side of the front frame 2 with the operation gestalt, an outer frame 1 and the front frame 2 may be made into one, the main part 3 of a game machine may be constituted, and a front panel 5 may be formed in the front-face side of this main part 3 of a game machine free [opening and closing]. There is not necessarily no need of dividing the front panel 5 into plurality, in forming a front panel 5 in the front face of the main part 3 of a game machine. The whole front panel 5 containing the glass door 82 may be constituted in one, and one is sufficient as the front frame 2 and a front panel 5. You may form the front panel 5 free [opening and closing] to the main part 3 of a game machine. There is not four number of sheets of a medal required for one game, and it should just be one or more sheets. Moreover, you may make usable two or more kinds of medals.

[0087] Moreover, when it did not pay out each time, but it displays on the medal numeral means 98 while adding and updating the number of acquisition medals to the upper limit one by one to the number of deposition medals for every game, for example, the return switch 114 is operated, you may make it pay out the deposition medal containing a part for an acquisition medal collectively, although the medal

which the game person gained was paid out to the medal saucer 109 for every game with the operation gestalt.

[0088] Although it is made to make a score increase with an operation gestalt when a game state occurs specially, the probability that will cover two or more games and guidance pattern 28a after change of the guidance pattern display means 28 will become a specific mode may usually be made to carry out probability change at high probability from probability. If it is in the game state which becomes advantageous to a game person in short, the content of a game is not specially a problem.

[0089] What is necessary is just to determine suitably the number of the control boards 22, 34, 47, 49, 51, and 59,103,136 if needed, when dividing control boards 22, 34, 47, 49, 51, and 59,103,136 according to each control function. It is also possible to subdivide the control function of instantiation further in an operation gestalt, and to form control boards 22, 34, 47, 49, 51, and 59,103,136 corresponding to the each, and it is also possible to give two or more kinds of control functions to some control boards 22, 34, 47, 49, 51, and 59,103,136.

[0090] What is necessary is just to give not only grant of a score but predetermined game value, although it is made to give a score with an operation gestalt when the role of winning a prize is materialized. Moreover, you may use things other than a medal for a game medium.

[0091] Furthermore, although illustrated about the arrangement ball machine with the operation gestalt, it cannot be overemphasized that it can carry out similarly with various kinds of combination game machines, such as a mahjong ball game machine besides an arrangement ball machine. Moreover, a game playing-ball close type besides a medal injection formula is sufficient, valuable media, such as a card, may be inserted and a game may be performed.

[0092]

[Effect of the Invention] Equipping the lower part of the game field 26 with a winning-a-prize mouth means 27 to have two or more winning-a-prize mouths 38, in this invention, and driving the game sphere of a predetermined number into the game field 26 for every game In the combination game machine which set the predetermined quiescent time for the end of every, and made the game repeatable Since it had two or more control functions and two or more control boards 22, 34, 47, 49, 51, and 59,103,136 are formed according to each of that control function, the single functionalization of the control boards 22, 34, 47, 49, 51, and 59,103,136 can be carried out. Therefore, usable [in common] in a model which is different in some control boards 22, 34, 47, 49, 51, and 59,103,136, since change of a control function is easily possible, manufacture cost can be reduced and, moreover, exchange of the control boards 22, 34, 47, 49, 51, and 59,103,136 by failure etc. can be made easy in a low cost.

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the front view of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 2] It is the side elevation of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 3] It is the rear view of the front frame in which the 1st operation gestalt of this invention is shown.

[Drawing 4] It is the front view of an outer frame showing the 1st operation gestalt of this invention.

[Drawing 5] It is drawing of longitudinal section of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 6] It is drawing of longitudinal section of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 7] It is the cross-sectional view of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 8] It is drawing of longitudinal section of a return-end path portion showing the 1st operation gestalt of this invention.

[Drawing 9] It is the block diagram of a control system showing the 1st operation gestalt of this invention.

[Drawing 10] It is the block diagram of a control system showing the 2nd operation gestalt of this invention.

[Drawing 11] It is the block diagram of a control system showing the 3rd operation gestalt of this invention.

[Description of Notations]

9 Game Board

10 Discharge Means

22 Expenditure Control Board

26 Game Field

27 Winning-a-Prize Mouth Means

28 Guidance Pattern Display Means

28a Guidance pattern
34 Pattern Control Board
38 Winning-a-Prize Mouth
47 Main-Control Substrate
49 Lamp Display Control Board
51 Voice-Control Substrate
59 Discharge Control Board
65 Circulation Path
66 Discharge Side Path
67 Return-End Path
75 Medal Input Port
99 Winning-a-Prize Display Means
100 Winning-a-Prize Display
103 Deposition Control Board
130 Display Lamp
136 Winning-a-Prize Display-Control Substrate

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

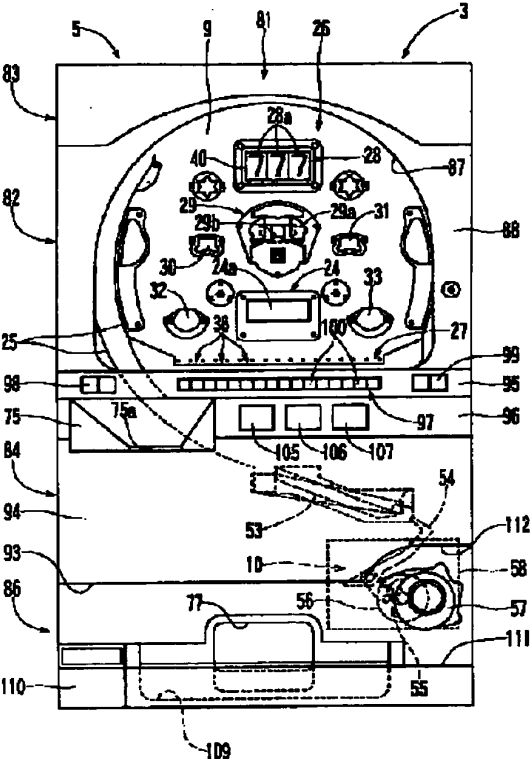
1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

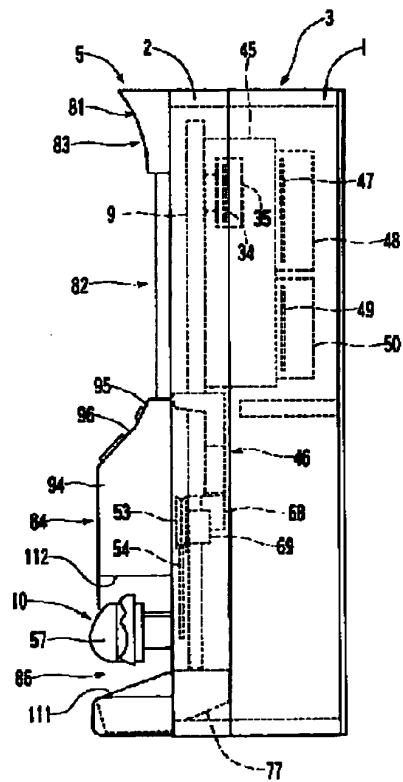
3.In the drawings, any words are not translated.

DRAWINGS

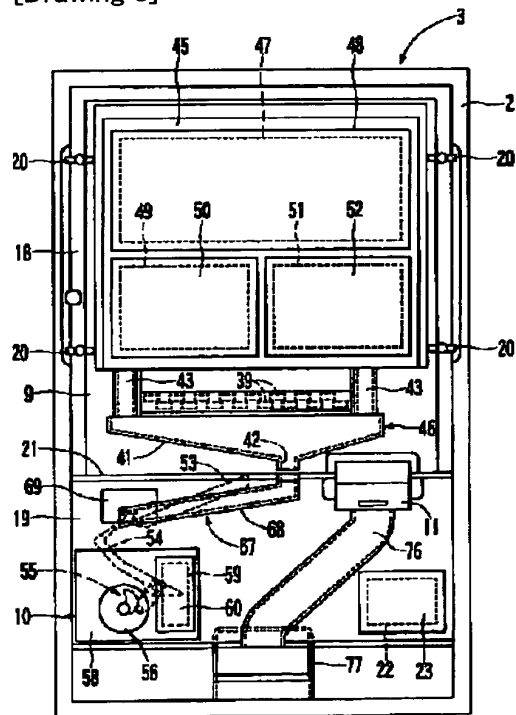
[Drawing 1]



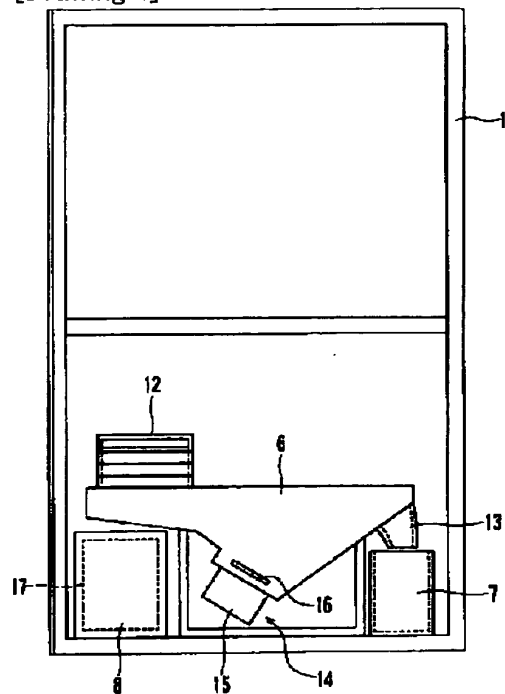
[Drawing 2]



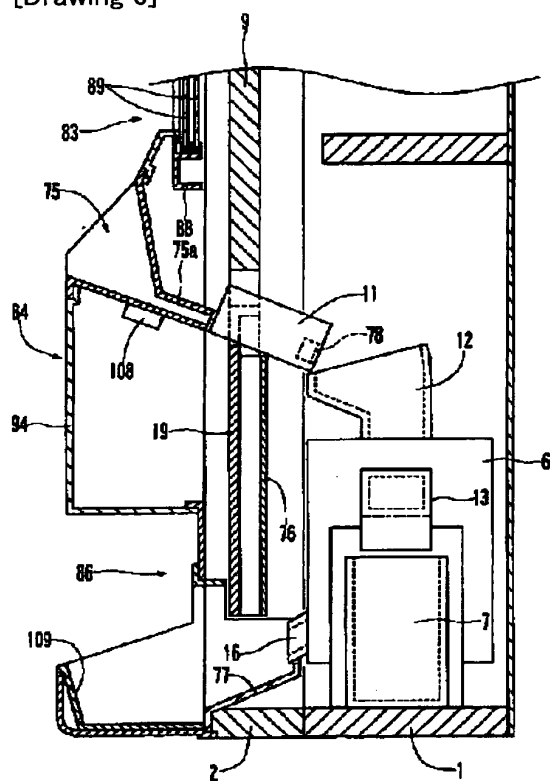
[Drawing 3]



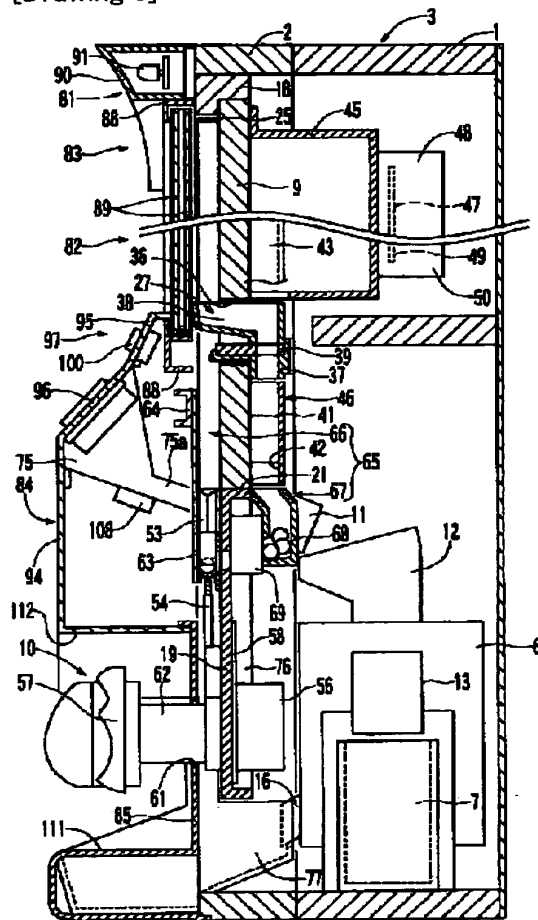
[Drawing 4]



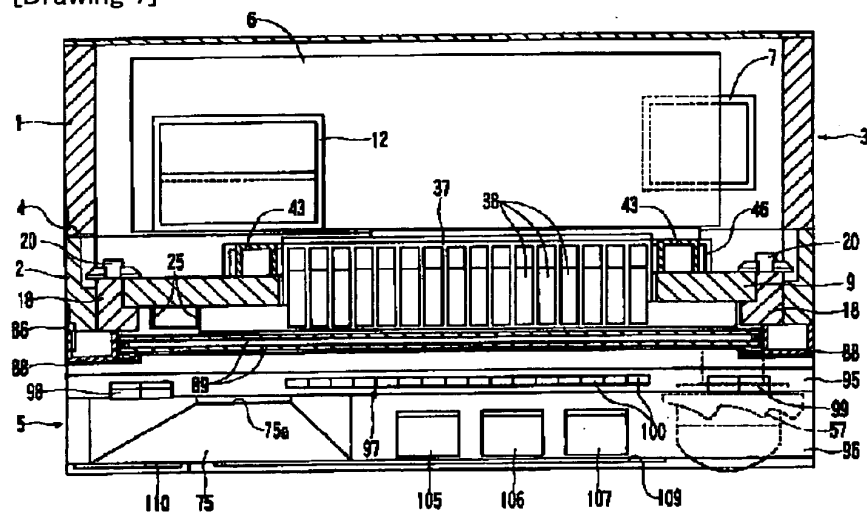
[Drawing 6]



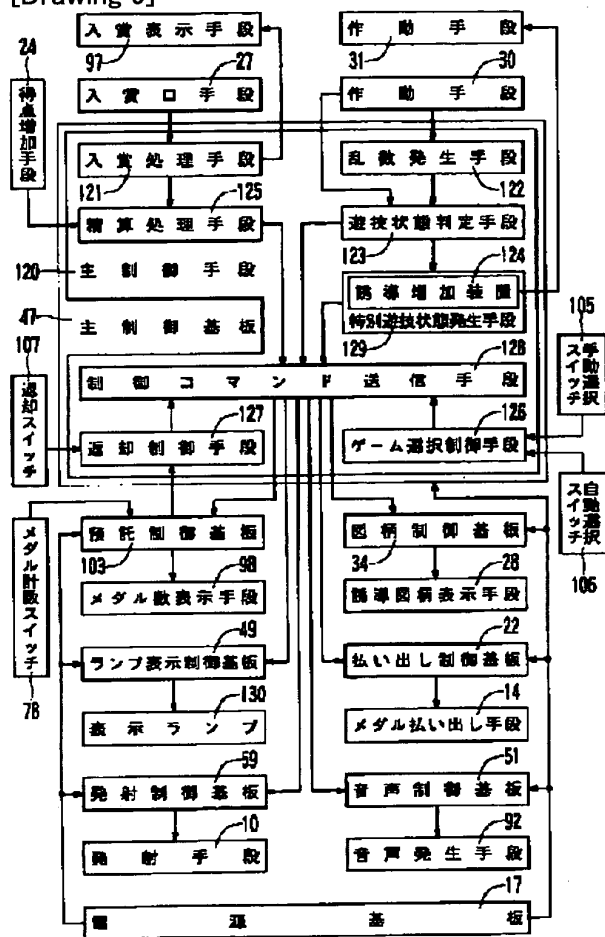
[Drawing 5]



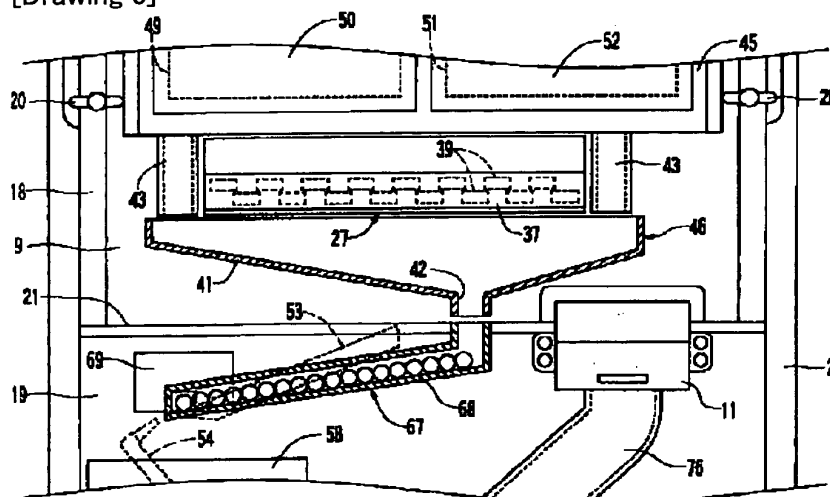
[Drawing 7]



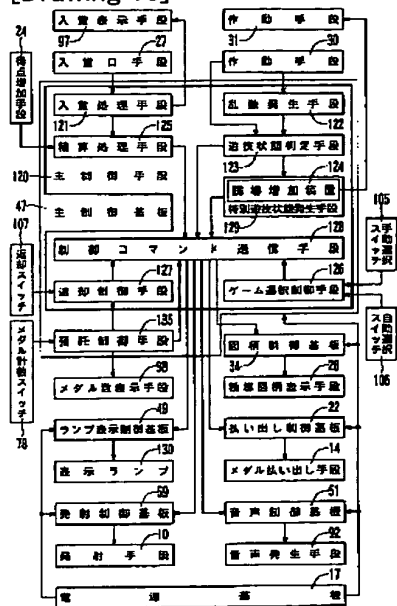
[Drawing 9]



[Drawing 8]



[Drawing 10]



[Drawing 11]

